MARCH 15, 1950

MODERN MEDICINE

The Journal of Diagnosis and Treatment

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Dr. Ralph T. Knight
(see page 9)

NOW. . . . *to protect the failing heart from a dangerous added strain . . .*

NITRANITOL®

with Phenobarbital and THEOPHYLLINE

Your hypertensive patient with a failing heart may present a condition dangerously complicated by edema. Unrelieved by diuretic help, this added strain, of course, can hasten cardiac failure.

In such cases, you'll welcome Nitranitol with Phenobarbital and *Theophylline* to provide powerful diuretic action and myocardial stimulation . . . along with sedation and Nitranitol's familiar, safe, gradual, prolonged vasodilation.

Nitranitol is available in these forms:

- **When the threat of cardiac failure exists.** *Nitranitol with Phenobarbital and Theophylline.* (½ gr. mannitol hexanitrate combined with ¼ gr. Phenobarbital and 1½ gr. Theophylline.)
- **When sedation is desired.** *Nitranitol with Phenobarbital.* (¼ gr. Phenobarbital combined with ½ gr. mannitol hexanitrate.)
- **For extra protection against hazards of capillary fragility.** *Nitranitol with Phenobarbital and Rutin.* (Combines Rutin 20 mg. with above formula.)
- **When vasodilation alone is indicated.** *Nitranitol.* (½ gr. mannitol hexanitrate.)

Merrell

CINCINNATI • U.S.A.

Select Neohetramine As First Choice in Antihistaminic Therapy

In a recent clinical report comparing toxicities of six most widely used antihistaminic drugs, at dosages administered at various dosage levels, it was observed that:

"In patients receiving Neohetramine side effects were much fewer and much less severe than in the groups receiving other antihistaminics."[1]

NEOHETRAMINE®

HYDROCHLORIDE

For the management of allergic disease, including dermatoses and allergic rhinitis—which is often mistaken for "colds".

1. *Schwartz, E.: Annals of Allergy 7:770 (Nov.-Dec.) 1949*

Neohetramine is the registered trademark of the Nepera Chemical Co., Inc. for its brand of Thonzylamine-N,N-dimethyl-N' p-methoxybenzyl-N' (2-Pyrimidyl) ethylenediamine.

Wyeth®

Wyeth Incorporated • Philadelphia 3, Pa.

Clinical tests prove that PRO-CAP is less irritating

141 patients, including the 130 developing adhesive irritations of various degrees, were then exposed to the adhesive tape containing the fatty acid salts. The plaster was used 970 times on these patients. Only 5 patients developed irritations which were sufficient to cause complaint. The irritation even in those instances was not sufficient to warrant discontinuation of the use of this new plaster.

—R. E. Humphries, *New Factors in Adhesive Formulas Which Lessen Irritation*, J. Investigative Derm. 9: 219-220 (Nov.) 1947

SEAMLESS PRO-CAP ADHESIVE PLASTER

THE ONLY ADHESIVE CONTAINING FATTY ACID SALTS

Seamless PRO-CAP is a superior quality Adhesive Plaster containing zinc propionate and zinc caprylate—two medically-proved ingredients. PRO-CAP provides these *three* important advantages, *at no increase in price!*

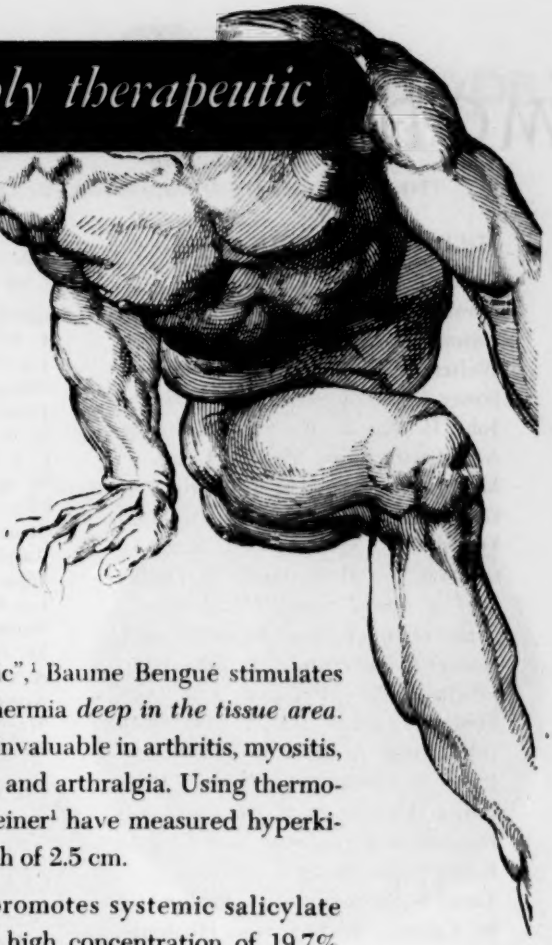
- **Skin irritation and itching are substantially eliminated.**
- **PRO-CAP adheres better. Less slime and maceration to interfere with tackiness.**
- **PRO-CAP can be left on the skin or renewed over longer periods, with little or no skin reaction.**

RESULT: More comfort for your patient . . . Less interference with your treatment . . . We invite you to discover PRO-CAP's outstanding qualities in your own practice. Write for illustrated brochure and reprints of medical reports.

FINEST QUALITY SINCE 1877

SR SEAMLESS

thoroughly therapeutic



As a true "hyperkinemic",[1] Baume Bengué stimulates hyperemia and hyperthermia *deep in the tissue area.* This thorough action is invaluable in arthritis, myositis, muscle sprains, bursitis and arthralgia. Using thermo-needles, Lange and Weiner[1] have measured hyperkinemic activity at a depth of 2.5 cm.

Baume Bengué also promotes systemic salicylate action. It provides the high concentration of 19.7% methyl salicylate (as well as 14.4% menthol) in a specially prepared lanolin base to foster percutaneous absorption.

1. Lange, K., and Weiner, D.: J. Invest. Dermat. 12:263 (May) 1949.

Baume Bengué
ANALGÉSIQUE

Thos. Leeming & Co. Inc 155 E. 44th St., New York 17, N. Y.

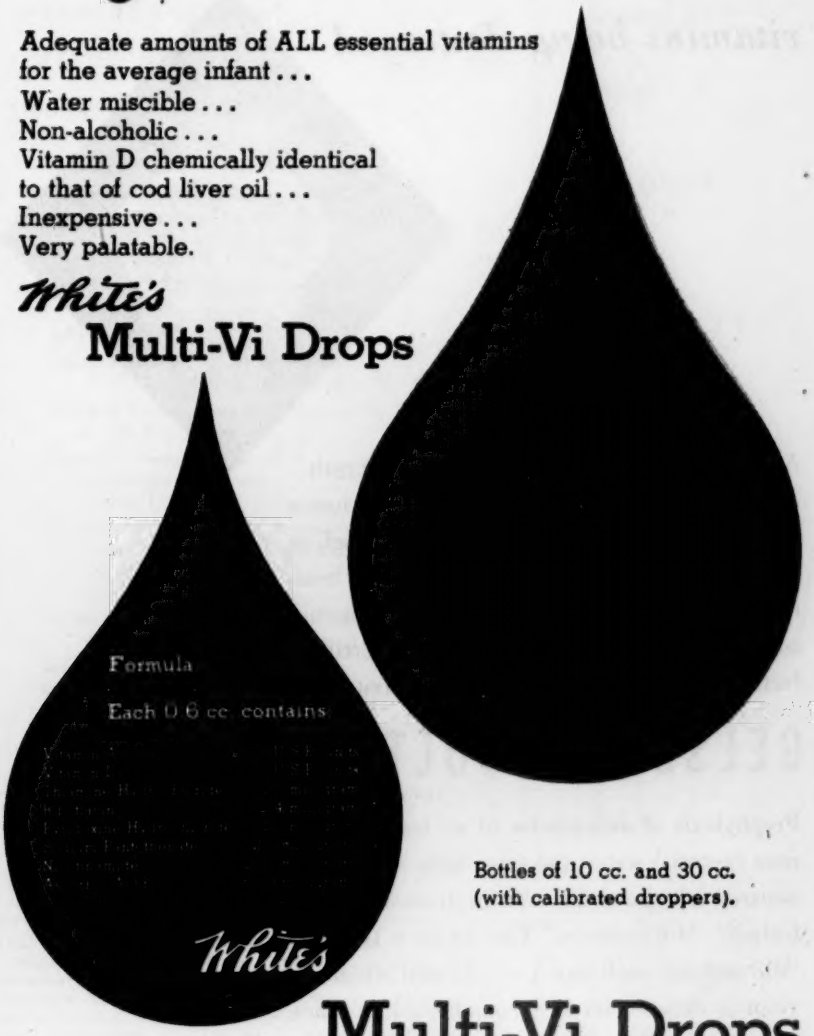
MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT

in a few small drops:

Adequate amounts of ALL essential vitamins
for the average infant . . .
Water miscible . . .
Non-alcoholic . . .
Vitamin D chemically identical
to that of cod liver oil . . .
Inexpensive . . .
Very palatable.

White's
Multi-Vi Drops



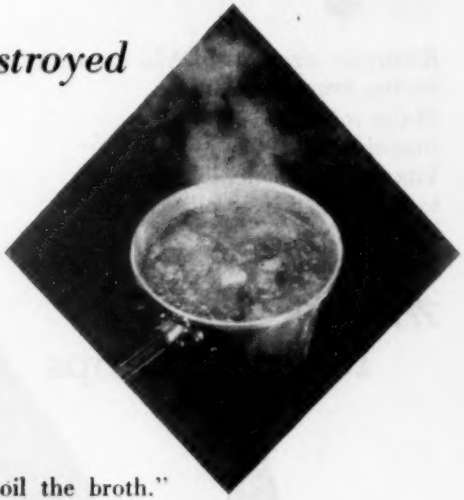
Bottles of 10 cc. and 30 cc.
(with calibrated droppers).

Multi-Vi Drops

White Laboratories, Inc., Pharmaceutical Manufacturers, Newark 7, N. J.

CAUTION!

vitamins being destroyed



All cooks, even the best, "spoil the broth." Available statistics indicate that vitamin losses during the preparation of food range as high as 89 percent for certain water-soluble and heat-labile vitamins. Seasonal variations of vitamin content and improper food selection contribute further to a suboptimal intake of essential vitamins.

GELSEALS MULTICEBRIN

(PAN-VITAMINS, LILLY)

Prophylaxis of deficiencies of no less than the nine essential water and fat-soluble vitamins is assured by the daily administration of one Gelseal 'Multicebrin.' Two to five Gelseals 'Multicebrin' each day are indicated whenever vitamin deficiencies are complicated by such contributing factors as pregnancy, wasting diseases, and the anemias.

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U.S.A.

Lilly

Contents for March 15 1950

VOL. 18, NO. 6

THE MAN ON THE COVER is Dr. Ralph T. Knight, Clinical Professor and Director of the Division of Anesthesiology of the University of Minnesota. He is also Director of Anesthesia at the University Hospitals, Consultant to the U.S. Veterans Administration Hospital, and a staff member of General and Asbury hospitals, Minneapolis, and Charles T. Miller Hospital, St. Paul. Dr. Knight is an active member of the MODERN MEDICINE Consultant Board and a frequent contributor to medical journals. He is co-author, with Maj. Arthur B. Tarrow, of the article, "The Long-Cuff Endotracheal Tube," reviewed on page 79.

Contents for March 15 1950

CONTINUED

In Para-nasal Infection **ARGYROL**

attains the objective...

a return to normal... without congestive rebound!

ARGYROL is bacteriostatic, demulcent and detergent. Its use actively promotes the restoration of normal processes without handicap of "compensatory congestion."

ARGYROL — *the medication of choice in treating para-nasal infection.*

SPECIFY THE ORIGINAL **ARGYROL** PACKAGE

Made only by the
A. C. BARNES COMPANY
NEW BRUNSWICK, N. J.

ARGYROL *is a registered trademark, the property of A. C. Barnes Company*

The ARGYROL Technique

1. The nasal meatus . . . by 20 per cent ARGYROL instillations through the nasolacrimal duct.
2. The nasal passages . . . with 10 per cent ARGYROL solution in drops.
3. The nasal cavities . . . with 10 per cent ARGYROL by nasal tamponage.

Its Three-Fold Effect

1. Decongests without irritation to the membrane and without ciliary injury.
2. Definitely bacteriostatic, yet non-toxic to tissue.
3. Stimulates secretion and cleanses, thereby enhancing Nature's own first line of defense.

For Daytime Sedation in the Aged

Urging the "*selection of specific barbiturates for specific purposes*," Dripps[1] writes of his results with Butabarbital Sodium (Butisol Sodium):

> "Fifteen of the patients receiving prolonged sedation were 65 years of age or older. The results of 15 mg. doses in these patients were remarkably good. The patients were suffering from such conditions as peptic ulcer, coronary occlusion, hyperthyroidism, congestive heart failure and hypertension . . .
>
> "Anxiety states in the older age groups appeared to respond well to small doses of the sedative."

The action of Butisol Sodium is "intermediate between the fast-acting derivative, pentobarbital, and the longer-acting barbital and phenobarbital."[2]

Butisol is "destroyed fairly rapidly in the body."[2] With proper regulation of dosage there is no cumulative action and a minimum of lethargy and "hang-over."

DOSAGE FORMS:

Elixir Butisol Sodium, 0.2 Gm. (3 gr.) per fl. oz., green.

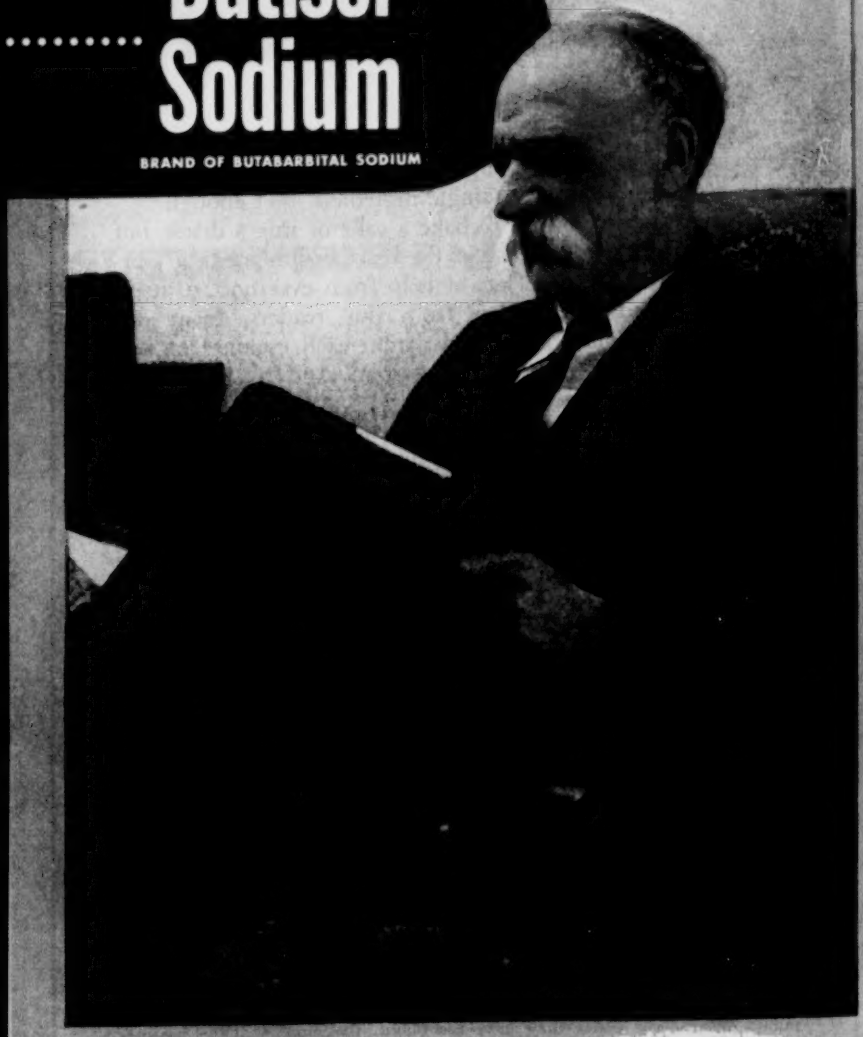
Tablets, 15 mg. (¼ gr.), lavender
Tablets, 30 mg. (½ gr.), green
Tablets, 50 mg. (¾ gr.), orange
Tablets, 0.1 Gm. (1½ gr.), pink
Capsules, 0.1 Gm. (1½ gr.), lavender

1. Dripps, R. D.: Selective Utilization of Barbiturates, J.A.M.A. **139**: 148-150 (Jan. 15) 1949.
2. New & Nonofficial Remedies, Council on Pharmacy and Chemistry, A.M.A., J. B. Lippincott, 1949, pp. 456-457.

McNEIL LABORATORIES, INC., PHILADELPHIA 32, PENNSYLVANIA

Butisol® Sodium

BRAND OF BUTABARBITAL SODIUM



Elixir **BUTISOL® SODIUM McNEIL**

Its bright, green color and refreshing flavor appeal to all; excellent prescription vehicle. Clinical samples on request.

LETTER FROM THE EDITOR

Dear Reader:

It takes more than an egg to make a cake, more than Seltzer water to make a highball, and more than paper to make a medical journal. A single ingredient isn't enough.

Now we don't intend to bake a cake or mix a drink, but we do want to give our readers the best possible medical journal. To do this we need lots of help from everyone in medicine. We need cooperation from our readers, from our Editorial and Consultant Boards, from each member on our Editorial staff, and from the advertisers. And we are getting cooperation, too!

Few magazines in any field have as high a degree of reader participation as MODERN MEDICINE. This participation is explicit in the Medical Forum, Correspondence, and Questions & Answers sections and implicit in every friendly suggestion and in each tough criticism. Every mail encourages us anew with fresh evidence that MODERN MEDICINE readers take a personal interest in their journal.

This interest is the result of an increasing awareness of physicians that the first concern of MODERN MEDICINE is the medical profession. It is earned interest, won by a recipe with not one, but four, main ingredients, *variety, brevity, fact,* and *authority*. This recipe has been scrupulously followed for more than seventeen years and has gained the cooperation of the lion's share of readers and advertisers alike.

Of course, when the readers are sold on a journal, it's no trick to sell the advertisers, for the interest of the reader and the advertiser is one. This was recently made clear by a merchandising executive speaking before the Advertising Club in Boston. He said:

> I like to be approached with the sales argument that they [the journals] are always attempting to make themselves of more value to their reading public, because the better they serve the public, the more valuable becomes their medium for my advertising use.

Be assured that our first interest will always be you, the reader, and that we intend to continue serving you with *variety, brevity, fact,* and *authority*.

Enticement.. to

SUSTAINED PENICILLIN LEVELS plus

when you prescribe penicillin

CONFETS

[FLAVORED TABLETS BUFFERED PENICILLIN SCHENLEY]

for finicky young patients

Each tasty CONFET supplies 50,000 units of crystalline penicillin G potassium buffered with calcium carbonate. These flavored, gaily colored tablets look and taste like candy... make maintenance therapy as welcome as a reward.

SCHENLEY LABORATORIES, INC.

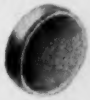
Executive Offices: 350 Fifth Avenue, New York 1, N. Y.

SUPPLIED: Glass tubes containing 12 tablets, 50,000 units each, stable at room temperature; no refrigeration required.

PINK

WHITE

GREEN



YELLOW

Correspondence

Communications from the readers of MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Placebo for Witch Doctors

TO THE EDITORS: In my opinion, the prescribing or injection of a placebo belongs to the medieval or witch doctor school of medicine. Why should the patient buy a useless tablet or pay for a useless injection?

Wouldn't it be much more rational to prescribe tablets of thiamin or other vitamins instead of a placebo, or to inject 50 mg. of B_1 or other vitamins instead of useless placebo?

I also believe that we should always use a vitamin vehicle instead of flavored syrups and elixirs when we prescribe cough syrup and the like.

Certainly 50 mg. of thiamin is of more value to the average vitamin-deficient patient than a few ounces of sweet raspberry syrup, and the cost is not increased.

I would be pleased to hear from other physicians concerning the idea.

NATHAN BROWNSTEIN, M.D.

Boston

Concise and Readable

TO THE EDITORS: I should like to tell you how much I enjoy reading *Modern Medicine*. I am impressed with the fact that it gives so much up-to-date information in such a concise and easily readable form.

RENEE ZINDWER, M.D.

Nashville

Therapy of Ruptured Esophagus

TO THE EDITORS: Congratulations on the Diagnostix which appeared in the January 1, 1950, issue of *Modern Medicine*. I do not know who the clinician was who presented this particular case of spontaneous rupture of the esophagus, but I was very impressed with the fact that emergency thoracotomy and *surgical repair* of the esophagus was the treatment of choice. I agree perfectly and have had the opportunity of seeing 2 of these patients whose lives we undoubtedly saved by such a surgical attack.

As you may know, this is somewhat contrary to many of the reports and the literature, which advise "conservative" drainage of the mediastinum. Such a course is doomed to failure.

PAUL C. SAMSON, M.D.

Oakland

3 Doctors in Five Years

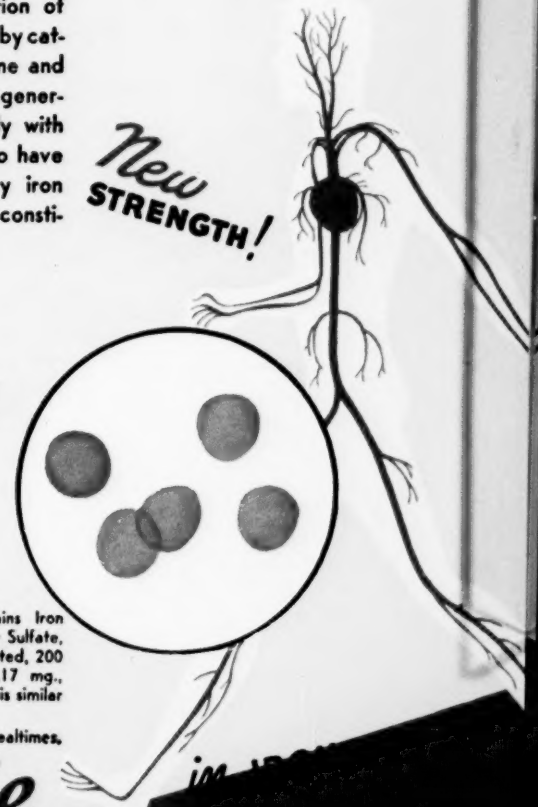
TO THE EDITORS: We hear constantly of the hue and cry for doctors in small communities and country practices. Here is a little problem confronting one community with a population of 1,200 in town and about 600 in outlying districts.

Three doctors have come and gone within the past five years. In the town there is a drugstore operated

A *New* DISCOVERY IN IRON

This surprisingly well tolerated organic iron salt has striking advantages in iron deficiency anemias. Here are important facts: the iron content — 24% greater than that of Ferrous Sulfate; hematopoietic action — more than three times that of iron and ammonium citrates. Unpleasant side reactions are rare.

In uniquely formulated IROCINE-WL (without liver) and IROCINE (contains liver) hematopoietic action of Iron Sodium Malate is increased by catalytic action of copper, thiamine and vitamin D. Hemoglobin is regenerated smoothly and dependably with minimal initial lag. Patients who have difficulty in tolerating ordinary iron medications, rarely experience constipation or other disturbances.



Formula: Each IROCINE tablet contains Iron Sodium Malate, R & C 200 mg., Copper Sulfate, U.S.P. 4 mg., Liver, desiccated and defatted, 200 mg., Thiamine Hydrochloride, U.S.P. 0.17 mg., Vitamin D, 67 U.S.P. units. IROCINE-WL is similar in composition but *contains no liver.*

Dosage: 2 tablets t.i.d., preferably at mealtimes.

Packaging: Bottles of 100, 500 and 1000.

Irocine

REED & CARNRICK

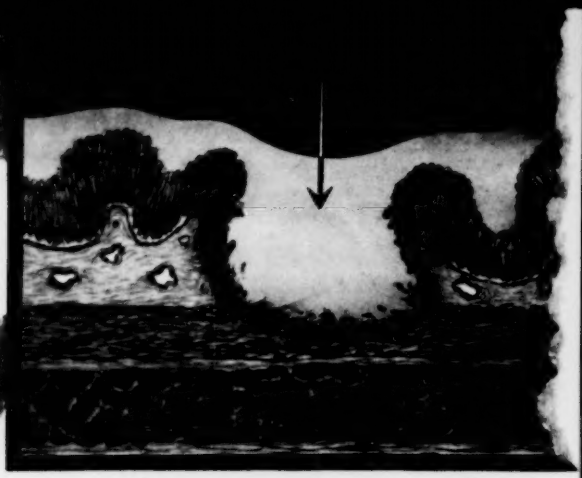
JERSEY CITY 6, N. J. TORONTO, ONT., CAN.

★ Synthesized by the Reed & Carnrick Institute for Medical Research. Patent applied for.

Ins. No. 5

3-WAYS-BETTE

ALUMINUM THERAPY *in* PEPTIC U[LCER]



- 4 HOUR ANTACID ACTION AVAILABLE
- NO ACID REBOUND
- CONSTIPATION RARE

Convenient, fast-acting ALRACOMP tablets contain Dihydroxy Aluminum Aminoacetate, an important advance in aluminum therapy, in improved formulation with Magnesium Trisilicate for sustained action in peptic ulcer—gastric, duodenal and jejunal. Other advantages: high acid buffering capacity, no acid rebound, protection of ulcer crater, sedative and antispasmodic action and marked reduction of constipation.

ALRACOMP—*Formula:* **Each tablet contains:**

Dihydroxy Aluminum Aminoacetate	0.333 Gm.	(approx. 5 gr.)
Magnesium Trisilicate	0.167 Gm.	(approx. 2½ gr.)
Homatropine Methylbromide	0.864 mg.	(approx. 1/75 gr.)
Phenobarbital	16 mg.	(approx. ¼ gr.)

Dosage: **When sedative and antispasmodic actions are required, 1 Alrac tablet and 1 Alracomp tablet should be taken between meals and 2 Alracomp tablets on retiring. Additional Alrac tablets, or fewer Alracomp tablets may be taken if desired.**

ALRAC for use when sedative and antispasmodic actions are not indicated. *Formula:* **Each Alrac tablet contains:**

Dihydroxy Aluminum Aminoacetate	0.333 Gm. (approx. 5 gr.)
Magnesium Trisilicate	0.167 Gm. (approx. 2½ gr.)

Dosage: **1, 2 or more tablets between meals, and on retiring, or as directed by the physician. Tablets may be chewed or swallowed whole.** *Packaging:* **100, 500 and 1000.**

REED & CARNRICK

JERSEY CITY 6, N. J. TORONTO, ONT., CAN.

Alracomp

by a pharmacist who has a local license only. He treats, prescribes, examines, and distributes medicine to people of the area, charging them for, as he calls it, "first aid." This person attended school to the eighth grade, received a high school diploma by correspondence, and a pharmacy license through political efforts. It is impossible for a doctor to write prescriptions for his patients because the pharmacist may be substituting unknown ingredients for lack of knowledge of the true medicine prescribed.

Medicines—such as sulfa drugs, bromides, penicillin, oral and injectable, and digitalis—are sold over the counter. The druggist gives penicillin injections, liver injections, and streptomycin when he deems it necessary, even prescribing diets. He also takes blood pressure readings.

The people themselves do not realize the harm that he can do and patronize him, feeling that they save in doctor bills.

What can be done in this case?

Please do not publish my name; I was the last doctor to leave.

M.D.

Illinois

Vulgar Designation

TO THE EDITORS: Please accept my deep-felt appreciation and thanks for publishing a simple, but quite appropriate cartoon ridiculing the vulgar designation of physician by the name of "Doc" (Jan. 15, 1950, p. 138).

For years I have waged battle against this vulgar and humiliating designation by telling patients that they would not call to a reverend "Hello, Rev" or "Hello, Cap" to a captain, but I have not had much success. In most cases the patient wonders at my remark, since other physicians apparently accept the designation, being afraid of calling their patients' attention to this marked discourtesy. The attitude of most physicians has been, "What can we do about it?" "They call me that also," and "I accept without any bad feeling."

"Howdy, Doc." "Hello, Carp!"

L. STOLFA, M.D.
(not a "Doc")

Berwyn, Ill.

Physician's Bag

TO THE EDITORS: I was interested to read about the developments by Dr. Albon W. Overgard of Stanley, Wis., in connection with the physician's bag that I described last fall (*Modern Medicine*, Aug. 1, 1949, p. 20; Feb. 1, 1950, p. 18). I am sure that both these models can be improved upon and I am sure that anyone who has used them will find them more efficient than the ordinary bag.

I feel compelled to take exception to the criticism that the bag is too

fragile. I have been using these bags for over two years and find that in my type of practice they are holding up very well. The bags are made by the H. H. Gerstner Co., of Dayton, Ohio, who have been making mechanics' tool kits for many years. They put the same type of construction into these bags that they do into their other products. The company has kept me posted about the progress of the bag and has sold quite a number of them with a money-back guarantee. To date, Dr. Overgard's was the only bag returned. However, I shall send this criticism to the company.

It is anticipated that the bag shortly will be submitted to the proper council of the American Medical Association for consideration.

Dr. Overgard's bag certainly looks efficient and I am very glad to know that he is working along these lines, and I feel sure that he and I agree that it is high time something is done to make the ordinary physician's bag more efficient.

A. T. HAEREM, M.D.
Redwood City, Calif.

More on the Magnet

TO THE EDITORS: I read with interest the letter from Dr. R. R. Barondes on the new a.c. electromagnet for nonmagnetic objects (*Modern Medicine*, Jan. 1, 1950, p. 18).

This electromagnet was first demonstrated publicly at a meeting of the American Physical Society, January 24, 1946, in New York City. In the paper I presented at that time the suggestion was made that some form of the device might be found useful for removal of foreign objects from the eye. However, only a short

(Continued on page 26)

GROWS with your requirements
SAVES future costs!

KELEKET'S REVOLUTIONARY

ADD-4-UNIT

COMBINATIONS

One basic table and unique floor-to-ceiling tubestand adaptable to 15MA, 30MA or 100MA power capacities . . .

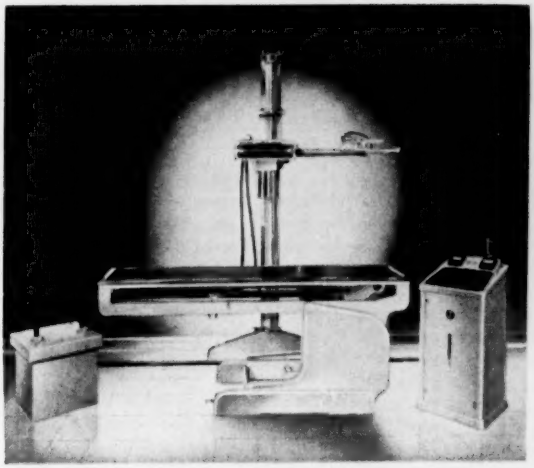


Illustration above shows 100MA Combination with the basic table and Floor-to-Ceiling tubestand. This combination includes the famous Keleket Multicron Generator.

FULL RADIOGRAPHIC FLUOROSCOPIC FACILITIES

A Full Size Standard Tilting Table with a completely new, highly flexible Floor-to-Ceiling tubestand . . . all equally adaptable for either 15MA, 30MA or 100 MA tube and generating units.

FUTURE COSTS SAVED

Throughout all interchanges you retain the same Keleket Table and Tubestand. This means you eliminate one of the biggest cost factors in equipment—new table and tubestand costs as you step up your tube capacity and power. Perform radiography in horizontal and trendelenburg positions, vertical and horizontal fluoroscopy. Swing tubehead away from the table and radiograph stretcher cases on the opposite side. If you want a bucky diaphragm, even the lowest cost unit is equipped to accommodate one.

Write us or have our representative call.

The KELLEY-KOETT Manufacturing Co.

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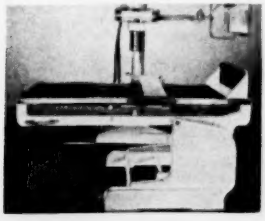
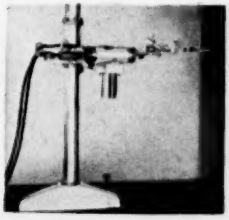
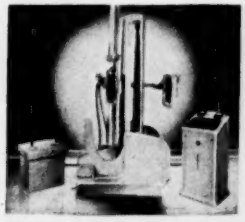
Our Golden Anniversary Year







now

peptomatic* digestional aid in single tablet form

By developing an entirely new type of enzymatic carrier, literally "a tablet within a tablet," Robins now makes available a triple-enzyme digestant—Entozyme. In *one small specially constructed tablet*, Entozyme "packs" pepsin, pancreatin and bile salts—in such a way that they are released only at the gastro-intestinal level of optimal activity. Thus Entozyme greatly simplifies and makes more effective the treatment of complex digestive disturbances of the gastro-intestinal tract. Clinical studies[1,2,3] have demonstrated the value of Entozyme in such conditions as chronic cholecystitis, chronic duodenal ulcer, acute and chronic pancreatitis and certain postoperative syndromes of the gastro-intestinal tract—in relieving nausea, belching, distention, anorexia, food intolerance, etc.

FORMULA: Each specially constructed tablet contains Pancreatin, U.S.P., 300 mg.; Pepsin, N.F., 250 mg.; Bile Salts, 150 mg

DOSAGE: One or two tablets after each meal, or as directed by physician, without crushing or chewing.

AVAILABLE: Bottles of 25 and 100.

REFERENCES:

1. Kammandel, N. et al.: Awaiting publication.
2. McGavack, T. H. and Klotz, S. D.: Bull. Flower Fifth Ave. Hosp., 9:61, 1946.
3. Weissberg, J., McGavack, T. H. and Boyd, Linn J.: Am. J. Digest. Dis., 15:332, 1948.

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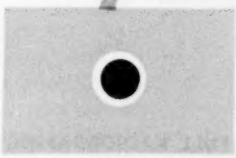
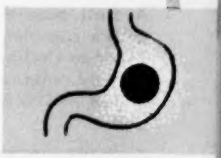
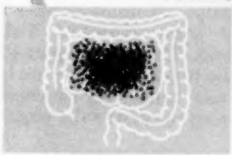
Ethical Pharmaceuticals of Merit since 1878



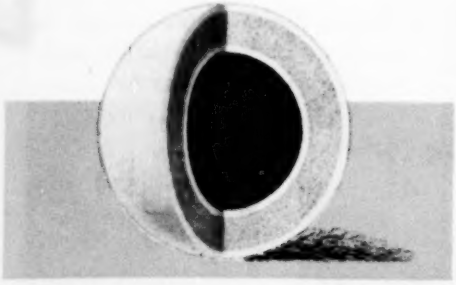
The "Peptomatic" Tablet



Releases pepsin in the stomach



Releases pancreatin and bile salts in the small intestine



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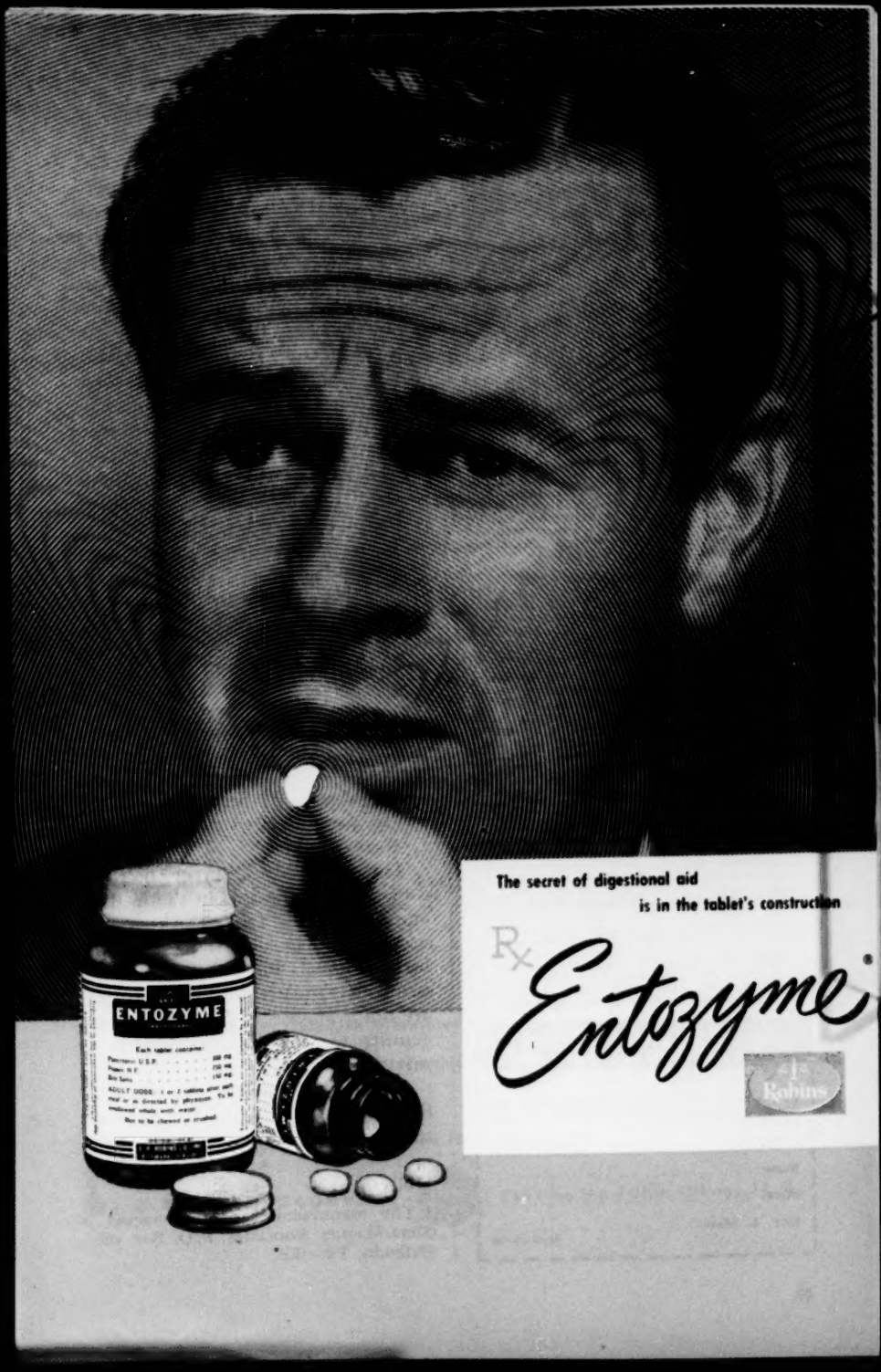
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The secret of digestional aid
is in the tablet's construction
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abstract of the paper was printed; this appeared in the *Physical Review*, March 1946, p. 25.

An organization has produced a classroom demonstration form of this electromagnet which picks up silver coins and similar objects.

The demonstration model is not adapted for surgical use and nothing of the sort is claimed for it.

Experimental studies on attracting pieces of brass, copper, and so forth, of 1 to 3 mm. in dimension have been encouraging enough to warrant serious consideration, and a maker of surgical instruments has production of the device under advisement.

Difficulties in the development of a form for use in eye work have proved formidable and the high-frequency power required involves electronic equipment.

WILLIAM V. LOVELL, M.D.
Sanford, Fla.

► TO THE EDITORS: I have received numerous inquiries on the new electromagnet that attracts copper, lead, and gold which I described in a letter to you (*Modern Medicine*, Jan. 1, 1950, p. 18).

There should be many uses for a magnet such as this in the medical and allied fields, for use in removing nonmagnetic metal material from the body. Though highly specialized instruments required for these purposes are not available, it is not beyond ingenuity to so construct them as to suit the needs.

Would you publish the name of the manufacturer so that others interested can contact the firm directly?

R. R. BARONDES, M.D.
Hollywood

¶ The manufacturer of the magnet is Meta-Magnet Associates, P.O. Box 3664, Orlando, Fla.—Ed.

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OBRON During Pregnancy—conveniently supplies adequate amounts of the essential minerals and vitamins to meet the increased nutritional needs of both the mother and the rapidly growing fetus.

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*Dicalcium Phosphate, Anhydrous	768 mg.
Ferrous Sulphate U.S.P.	64.8 mg.
Vitamin A (Fish-Liver Oil)	5,000 U.S.P. Units
Vitamin D (Irradiated Ergosterol)	400 U.S.P. Units
Vitamin B_1 (Thiamine Hydrochloride)	2 mg.
Vitamin B_2 (Riboflavin)	2 mg.
Vitamin B_6 (Pyridoxine Hydrochloride)	0.5 mg.
Vitamin C	37.5 mg.
Niacinamide	20.0 mg.
Calcium Pantothenate	3.0 mg.

Equivalent to 15 grains Dicalcium Phosphate Dihydrate

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"Although E.C. 110 (CAFERGONE) was developed primarily for the relief of the migraine attack, it is uniformly effective and has a much wider range of usefulness in the relief of headache of all other types, especially typical and atypical histaminic cephalgia."
(Hansel)[1]

For The First Time In Almost Two Thousand Years, clinical trials of an oral preparation indicate that migraine and other vascular headaches can be aborted in 85-90% of cases.

Although the cause of migraine is still unknown, the mechanism productive of head pain has been determined.[2] It has been observed that the head pain in migraine and related disorders is produced by abnormal behavior of certain cranial arteries, principally branches of the external carotids. These become constricted in the pre-headache stage of the attack, producing warning signs such as visual disturbances. Later, these arteries dilate and *at this point, agonizing headache begins.* Exaggerated pulsations and thickening of the affected arterial walls cause stretching of and pressure upon adjacent pain-sensitive structures. Headaches of this type may last for a few minutes only or they may last for days. Seizures usually terminate with severe vomiting.

As a result of recent research, these headaches can be aborted for the great majority of sufferers. *Attention has been centered on the development of an effective oral preparation to relieve vascular headaches. Cafergone* (100 mg. caffeine and 1 mg. ergotamine tartrate per tablet) *is the result of this research.* Ergotamine tartrate (Gynergen) has long been known as a potent vasoconstrictor.[3] Caffeine, when administered orally, also acts as a vasoconstrictor.[4] Simultaneous administration of ergotamine tartrate with caffeine in Cafergone tablets has the advantage of reducing the usual dose of ergotamine necessary to abort these headaches.[3]

These measures will abort vascular headaches for 85-90% of sufferers: [1,3,5]

1. Advise the patient to re-organize his activities where possible.
2. Improve the general health of the patient.
3. Give 2 Cafergone tablets at first sign of impending attack and, if necessary, additional 1-tablet doses (up to 6) at half-hour intervals.

Literature, available on request, for further particulars on *Dosage Adjustment* and other points:
Reprints of recent reports.
Therapeutic brochures.
Chart: "Clinical Characteristics of Vascular Headaches."

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4. SOLLMANN, T.: A Manual of Pharmacology, Phila., W. B. Saunders Company, 1948, p. 215.
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Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: What are the dangers involved and the possible consequences of intranasal administration of vasoconstrictors such as neosynephrine daily over a period of years?

M.D., Pennsylvania

ANSWER: *By Consultant in Rhinology.* Research and clinical material available in the literature definitely demonstrates that continued use of vasoconstrictors damages the nasal mucosa and significantly disturbs its physiology. The disturbance is in addition to whatever systemic effects the intranasal usage may produce.

QUESTION: A gravida IV, para V, aged 32, has been subject to attacks of angioneurotic edema for the past eleven years. Attacks vary in location and severity and come at the time of menstruation. The past twelve days she has been having edema of various parts of the body, but no uterine bleeding. Adrenalin gives some relief, but not as much as formerly. Physical examination is essentially negative. Is there some type of therapy in the field of hormones that could be used?

M.D., Minnesota

ANSWER: *By Consultant in Gynecology.* Allergic states frequently arise in the premenstrual or menstrual period. Some of these allergies have been ascribed to self-immunization of the patient to her own hormones. Dr. Bernard Zondek has prepared extracts of hormones for cutaneous testing and has found that such allergies can be relieved by desensitizing with small doses of female sex hormones.

QUESTION: I have a patient forty years of age who, according to his history, was bitten on the thigh by a spider in 1930. At the time, the local reaction consisted first of a redness with itching. The red dots then became confluent and went on to vesicle formation. In a week the vesicles dried up, to form crusts surrounded with swelling and induration the size of a dollar. The reaction gradually subsided. From that time to the present, about twelve times yearly, this area breaks out and goes through the same process. There is no relationship to activities, habits, or anything else. Intervals may be two weeks to two months. There is some irritation and pain and especially itching, but no general or serious effects. Symptoms are relieved by ultraviolet light but the course is not affected by any medication. Is there a definitive treatment?

M.D., Wyoming

ANSWER: *By Consultant in Dermatology.* The circumstances recounted are undoubtedly recurrences of herpes simplex. This condition not infrequently occurs at sites other than the characteristic ones—the nose and lips—and, under such circumstances,

for faster clinical response

in TINEA CAPITIS . . .
TINEA CRURIS . . . TINEA CORPORIS . . .
TINEA PEDIS . . . (athlete's foot)

get AT the fungus with

LIQUID

a solution of copper undecylenate with undecylenic acid, and dioctyl sodium sulfo-succinate in isopropyl alcohol and tetrachloroethylene (Pat. App. For).

The new, more fungicidal copper salt of undecylenic acid in a new, fat-solvent, low surface-tension, volatile-liquid base.*

SIMPLE TO USE—Just paint on twice a day . . . no bandages or dressings necessary. Supplied in 1 oz. bottles with applicator brush, and 4 oz. bulk bottles.

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is frequently undiagnosed or misdiagnosed. The ultraviolet therapy which has been used is perfectly satisfactory. A series of 6 to 8 smallpox vaccinations at intervals of two or three weeks might be helpful in preventing recurrence. X-ray therapy in subintensive dosage is sometimes used when the recurrences are at exactly the same site.

QUESTION: A thirty-seven-year-old housewife has a chronic rheumatic heart disease with mitral stenosis. Auricular fibrillation has developed, which is controlled by digitalis. Please advise me what other helpful measures would prolong her life.

M.D., Wisconsin

ANSWER: *By Consultant in Cardiology.* Many patients with mitral stenosis live quite comfortably for years. Therapy is largely directed to complications which may develop, such as congestive failure. In the present instance modified rest and moderate restriction of physical activities are recommended.

QUESTION: A workman accidentally hit his head with a heavy hammer. He did not lose consciousness but had a headache after the accident which was continuous and progressive. Ten days later he died from internal cerebral hemorrhage. Autopsy revealed rupture of aneurysm of posterior cerebral artery of 2.5 cm. diameter. Could this rupture be related to the injury?

M.D., New York

ANSWER: *By Consultant in Neurology.* Certainly it is possible that the aneurysm was ruptured by the blow on the head. Such aneurysms frequently rupture with very slight increase of vascular pressure, and spontaneous rupture is not uncom-

(Continued on page 36)

Are YOU interested in a preparation which has benefited 85.1% of 3634 Arthritic Patients?

● Recently 36 physicians reported to us their results with RAY-FORMOSIL, treating 3634 arthritic patients' over a 2-year period. 85.1% were benefited.

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INFECTIOUS	486	392	80.7%
RHEUMATOID	1146	958	83.6%
FIBROSITIS	96	79	82.3%
TOTAL	3634	3092	85.1%

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FORMULA: Each cc. contains:
Formic Acid..... 5 mg.
Hydrated Silicic Acid..2.25 mg.

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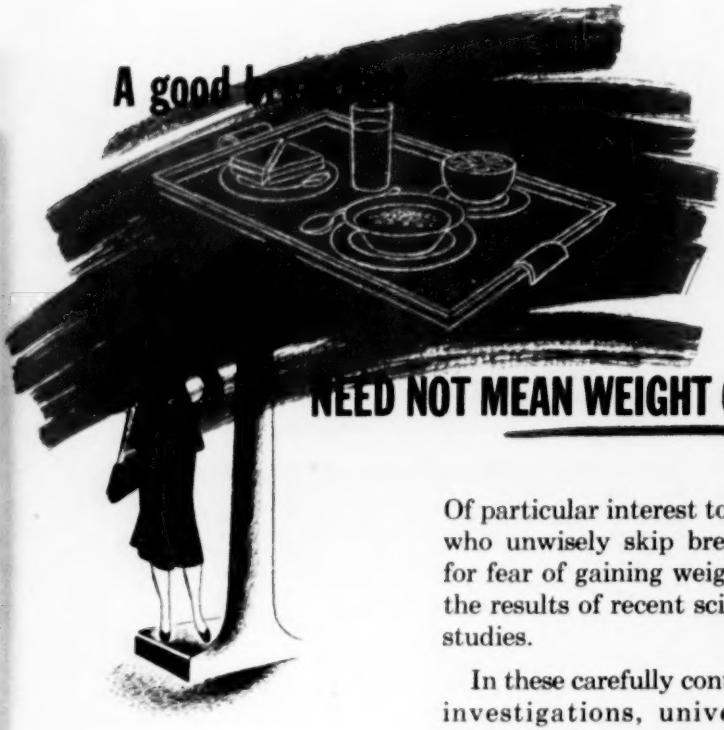

A good b... NEED NOT MEAN WEIGHT GAIN

Of particular interest to those who unwisely skip breakfast for fear of gaining weight are the results of recent scientific studies.

In these carefully controlled investigations, university women students eating breakfasts providing 300, 600, and 1,000 calories respectively or omitting breakfast entirely during five-week experimental periods did not experience significant alterations in their weights. Free choice was allowed for the kinds and quantities of foods consumed at the other meals.

Although not registering weight gains, the experimental subjects demonstrated

markedly superior physiologic functioning during the periods in which the breakfasts were eaten, as compared with the periods when breakfast was omitted. When breakfast was given, the maximum work output was greater and mental acuity was sharper in the majority of subjects; neuromuscular tremor was less in all subjects. The measurements were made at the pre-noon hour.

THE COMPONENTS OF A SOUND BREAKFAST

Fruit, cereal, milk, bread and butter—which constitute a widely accepted breakfast pattern—have long been recognized by nutrition and health authorities as a sound nutritional pattern for the daily breakfast. In this basic breakfast pattern the cereal serving—cereal and milk—contributes such important nutrients as biologically complete protein; the B vitamins thiamine, riboflavin and niacin; the essential minerals calcium, iron and phosphorus; and needed food energy. Other notable values are blandness, taste appeal and easy digestibility. The many kinds of cereals available permit of inviting variation for the daily breakfast menu.

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mon. However, in view of the history presented, I should be inclined to believe that the rupture of the aneurysm in this case was directly related to the injury.

QUESTION: A psychoneurotic patient unrelieved by psychiatric treatment has had pruritus ani of psychoneurotic origin for two years. Anesthetic ointments fail to give relief. Now he gets practically no sleep. What other local treatment can I try?

M.D., Ohio

ANSWER: *By Consultant in Proctology.* If local applications are unavailing, rectum secretions are of normal hydrogen-ion concentration, and no local contributing pathology is found, it would seem that the only thing left to do is Ball's operation, which undercuts the nerve endings, or at least a modification of this type of surgery.

QUESTION: Left and right oophorectomy was performed on a nineteen-year-old patient in 1941. After eighteen months I was consulted for treatment of symptoms of artificial menopause—subjective nervous system disorders and cardiovascular symptoms, especially vertigo. The subjective and objective symptoms were relieved by estrogen injections, 2,000 I.U. twice a week. I have periodically tried to suspend the injections, substituting oral stilbestrol, but the results have been poor and the patient has insisted on resumption of the injections which alone seem to give relief. Will constant use of estrogens until the age corresponding to the climacteric period benefit and not endanger this patient?

M.D., New York

ANSWER: *By Consultant in Gynecology.* No evidence has been adduced that prolonged use of estrogens is harmful in the absence of family or personal history of carci-

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noma. However, gradual reduction of dosage with intermittent and finally complete cessation of estrogen therapy should be attempted in order to allow the patient to adjust to this climacteric period.

QUESTION: Is ammoniacal silver nitrate effective in treatment of fungous infection of the nails?

M.D., New York

ANSWER: *By Consultant in Dermatology.* If the infection is due to *Trichophyton purpureum* a favorable response with ammoniacal silver nitrate is unlikely. Better results are usually obtained with infections due to *T. violaceum* or *Candida albicans.* Before starting ammoniacal silver nitrate therapy, therefore, diagnosis should be confirmed by microscopic and cultural studies. Treatment should probably be continued for six to eight weeks before abandonment.

QUESTION: A month ago a woman, eighty years old, fell and broke her left hip at the neck of the femur. She is a diabetic and has suffered myocardial damage. A previous mild case of apoplexy left her with considerable difficulty in walking. Conservative treatment was decided upon and adhesive traction was applied on the leg for immobilization. She had a mild case of shock and circulatory embarrassment. A small pressure decubitus is fairly well under control. Do you think I should try to get her up, at least to let her sit in a chair? Would you advise that I continue the treatment outlined?

M.D., New York

ANSWER: *By Consultant in Orthopedics.* Further conservative treatment of the fracture of the femur is of doubtful value. The patient can probably sit up in a chair quite comfortably, but walking is no doubt impossible.

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NO rise in bloodpressure
NO rapid pulse
NO wakefulness, restlessness or nervousness
NO smarting or stinging
NO secondary vasodilation...

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Forensic Medicine

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PROBLEM: Could a physician constitutionally be tried by one jury and under a single indictment on eleven separate charges of having illegally sold narcotic drugs?

COURT'S ANSWER: Yes.

In refusing to release the doctor from a conviction on ten of the counts after he had been sentenced to five years on each charge, the sentences to run concurrently, the U. S. Court of Appeals, Eighth Circuit, decided that the procedure, which is authorized in criminal proceedings generally by federal statutes and court rules, did not violate the constitutional guaranty that no one shall be convicted of crime without due process of law (177 Fed. 2d 279).

PROBLEM: A pregnant woman asked a physician to perform an abortion. He refused to do so, but gave her an address to which she could go to get the desired operation. She went there and was curetted by an unlicensed person. Was the revocation of the physician's license justified on the grounds of having aided an unlicensed person to practice medicine and surgery and of having offered to procure an illegal abortion?

COURT'S ANSWER: Yes.

The California District Court of Appeal, First District, decided that dismissal of criminal prosecutions against the principals in the abortion did not prevent revocation of the license by the state medical board and that the revocation need not be based upon evidence conforming to technical rules applicable to evidence and witnesses in court trials; it being enough that the evidence be such that it would be relied upon by responsible persons in the conduct of serious affairs.

The court found that the state board clearly had jurisdiction over the application to revoke the license, but observed that when such a board purports to act upon a matter outside its jurisdiction, the person against whom the proceedings are instituted does not waive his right to challenge the board's jurisdiction by defending the proceeding before the board on its merits; the challenge may be made later before the board or even before courts to which the proceeding may be taken for review (211 Pac. 2d 389).

PROBLEM: A mature married woman consented to and participated in an illegal abortion upon herself that resulted fatally. Could her husband collect damages from the abortioner for his wife's death under Virginia law?

COURT'S ANSWER: No.

The Virginia Supreme Court of Appeals noted that appellate courts in Indiana, Maine, Ohio, and Wisconsin have permitted women to recover damages from those performing illegal abortions upon them with

(Continued on page 46)

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White's **drop-cillin** —a truly palatable liquid for drop-dosage to infants and small children—administered direct from the dropper or added to the first ounce or two of formula or other liquid—no tablets to crush, in suitable cases no unwanted injections—

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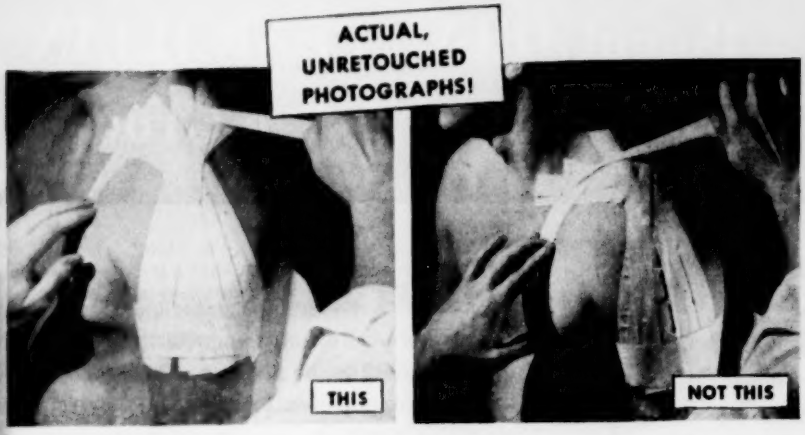

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consent. But the Virginia court cites numerous cases from other states as showing that "the better reasoned cases" deny right to collect damages. Those cases were decided in Massachusetts, Tennessee, Kentucky, Kansas, and the District of Columbia.

The Court of Appeals observes that in some states anti-abortion statutes make the woman an accomplice in the crime, while it is not so in Virginia and other states. But it is immaterial, the court added, whether she is an accomplice or not, when she sues for damages. Recovery of damages in this case was denied on the ground that decedent was guilty of moral turpitude and participated in the violation of a general anti-abortion statute, enacted to effect a public policy that is more concerned in protecting unborn children and society than in protecting the mother (56 S. E. 2d 217).

PROBLEM: The Postmaster General issued an order against use of the mails to advertise a weight-reducing remedy, on a theory that no reputable physician would accept kelp or iodine as a reducer. That theory rested upon medical testimony given by doctors as expert witnesses. Was the order vitiated by the fact that the person against whom it was issued was denied the right to cross-examine the medical experts concerning statements in medical books other than those upon which the experts relied?

COURT'S ANSWER: Yes.

In this case, decided by the U.S. Supreme Court, Nov. 14, 1949, the court said that because the general professional knowledge upon which the experts partly based their opinions was derived from certain medical textbooks and publications, it was improper to exclude cross-exam-

(Continued on page 50)

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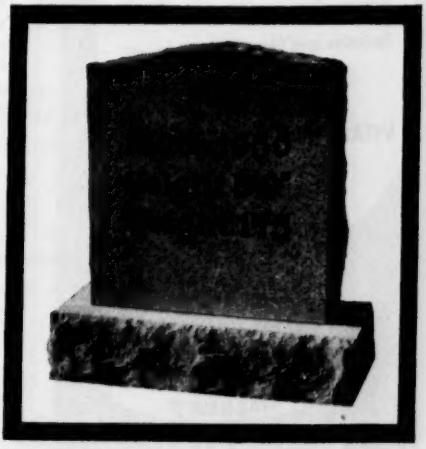

*T.M. Reg. U.S. Pat. Off. for dextro-amphetamine sulfate, S.K.F.

ination concerning statements in other books.

The Post Office Department sought to justify the exclusion of the cross-examination on the ground that the other books were mere medical dictionaries, which the experts testified they would not consult to ascertain the efficiency of a remedy, although they kept and used them for other purposes. "But," argued the Court, "the books did assert the use of kelp as a fat reducer, and to some extent this tended to refute testimony of government experts that no reputable physicians would accept kelp or iodine as a weight reducer."

However, the Court left it open to the Postmaster General to conduct new hearings on the question as to whether the order should be reinstated after giving due weight to the excluded testimony (70 Sup. Ct. Rep. 110).

PROBLEM: A fire department lieutenant collapsed while directing his men in fighting a fire, if not while helping drag hose. He had suffered from chronic myocarditis for several years. No evidence of violent injury was found. Was his dependent widow entitled to a workmen's compensation award on a theory that the death was due to "accidental injury"?

COURT'S ANSWER: Yes.

The Illinois court recognized that a finding of "accidental injury" cannot rest upon mere surmise but may rest upon reasonable inferences from established facts. A finding of accidental injury is not precluded because the employee might not have collapsed had he been in normal health. True, when death is due to preexisting disease, injury may have either aggravated or accelerated the

(Continued on page 55)

Linguets should not be confused with ordinary tablets, which have been "proved relatively ineffective" by sublingual administration. —

Escamilla, R. F. and Gordan, G. S.: Bull. Univ. California Med. Center, November 1949.

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*Jonlin, E. P., Postgrad. Med.: 4:302 (Oct.) 1948.
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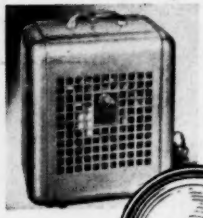

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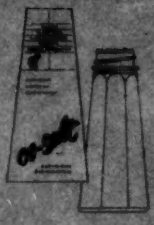

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disease. But is is not necessary that there be "external violence." "If a workman's existing physical structure . . . gives way under stress of his usual labor, his death is an accident which arises out of his employment," within the meaning of the compensation act (89 N. E. 2d 354).

PROBLEM: Despite his doctor's recommendation that settlement of a personal injury claim be deferred until the extent of injury could be better determined, a patient settled with a third party whose carelessness caused the injury. Could the patient avoid the settlement and collect damages in a greater amount on the ground that an adjuster representing the third party's insurer had said that the patient would be "all right" after rest?

COURT'S ANSWER: No.

The Wisconsin Supreme Court decided that, in view of the doctor's warning to delay settlement, the adjuster's statement could not be regarded as such fraudulent misrepresentation as to vitiate the settlement 39 N.W. 2d 698).

PROBLEM: Under a statute forbidding a licensed chiropractor to advertise himself as being a "physician," was it an offense to advertise as being a "chiropractic physician"?

COURT'S ANSWER: Yes.

The Appellate Department of the Superior Court, San Diego, noted that when the Chiropractic Act was adopted in 1922, only two types of certificates were recognized: [1] a physician's and surgeon's certificate authorizing the use of drugs and of medicines, [2] a drugless practitioner's certificate. So, the framers of the

(Continued on page 58)

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1. Lehr, D.: Scientific Exhibit, Atlantic City Session, American Medical Association, June 6-10, 1949.
2. Lehr, D.: Brit. M. J. 2:543, 1948.
•T. M.

BLOOMFIELD, NEW JERSEY

SCHERING

Chiropractic Act must have had in mind the ineligibility of a drugless practitioner to hold a physician's license. The prohibition against use of the word "physician" could not be evaded by prefixing the word "chiropractic," because "physician" implies the use of drugs (214 Pac. 2d 629).

PROBLEM: Plaintiff and defendant formed a partnership to continue a practice previously established by defendant, the senior member. About two years later the plaintiff, who was the surgeon of the firm, entered military service. Unwisely, there was no written or clearly expressed agreement concerning future partnership relations. Surgery practice naturally decreased when the surgeon left, but the medical practice carried on by the defendant thrived. On the plaintiff's return, the parties could not agree upon what share, if any, of the profits arising during plaintiff's absence should be paid to him. The surgeon rejected an offer made by defendant, conditioned upon plaintiff's resumption of practice with defendant, and sued for an accounting. Was he entitled to a share of the profits?

COURT'S ANSWER: No.

The Missouri Supreme Court concluded that the parties intended that plaintiff should not share in profits earned during his absence. The court stressed the fact that the surgeon was paid nothing during his absence of more than three years and demanded no accounting during that time.

The court applied basic rules of law that the terms of a partnership may be changed by mutual understanding and that, although there is no present dissolution, it may be agreed that participation by one member shall be suspended for a time (224 S. W. 2d 968).

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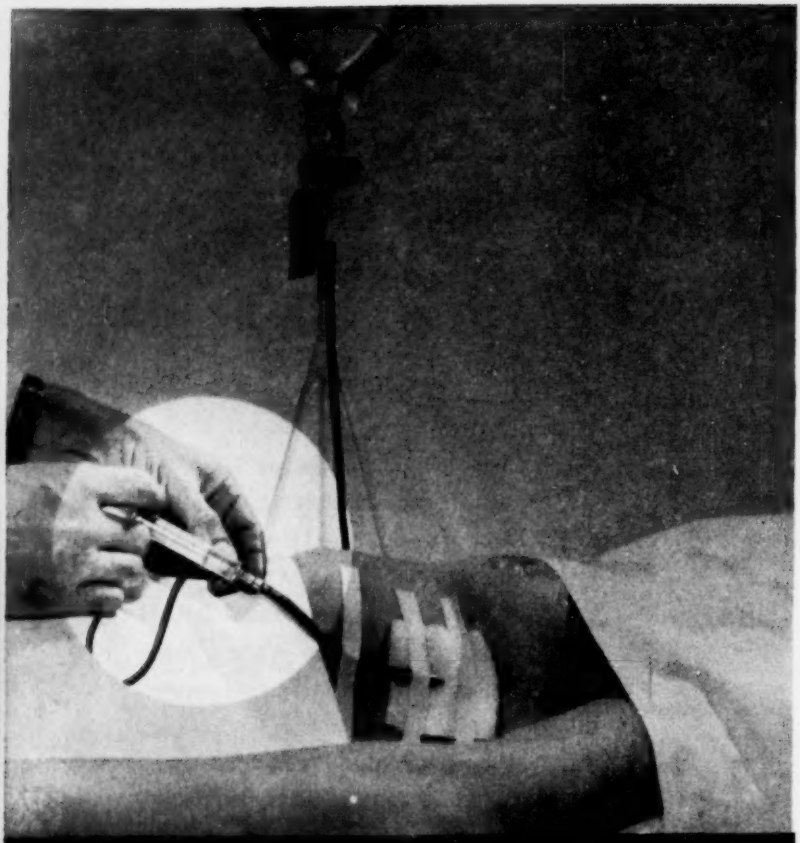

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MODERN MEDICINE

Hyperthyroid Cardiac Dysfunction

DWIGHT GRISWOLD, M.D., AND JOHN H. KEATING, JR., M.D.*
St. Luke's Hospital, New York City

Toxic goiter produces auricular fibrillation and heart failure in approximately 1 of 8 cases, usually without actual organic damage.

The principal factors are age, male sex, prolonged thyrotoxicosis, and coexistent cardiovascular disease. Dysfunction is not related to the severity of hyperthyroidism.

For persistent fibrillation, Dwight Griswold, M.D., and John H. Keating, Jr., M.D., institute quinidine therapy immediately after thyroidectomy. In most cases normal rhythm soon returns and compensation is permanently regained.

Among 810 cases of hyperthyroidism with or without arteriosclerotic or other organic heart disease, 103 were classified as thyrocardiac. Auricular fibrillation, cardiac insufficiency, or both were evident on admission to the hospital. Paroxysmal tachycardia, paroxysmal fibrillation, and extrasystoles were disregarded in the survey.

On admission, the thyrocardiac group are fifty-one years old on the average, fully ten years older than persons with uncomplicated thyroid disease. Both classes have a more explosive course if goiter is the toxic diffuse type rather than the nodular, and enter the hospital ten years younger.

About 25% of the cardiothyroid subjects are men, in contrast to 15% of hyperthyroid patients without heart disease. A large number of the men have actual cardiac disease. Duration of symptoms is significantly longer in the thyrocardiac group.

Cardiovascular disease is observed in more than half of the thyrocardiac subjects but in just a little more than one-eighth of other hyperthyroid cases. Most of the organic heart disorders are due to arteriosclerosis or hypertension or both, but some rheumatic conditions are observed. Thyrocardiac heart failure is related to cardiovascular disease in 2 of 3 cases; 36 persons with decompensation had organic disease and 18 persons did not have.

Degree of hyperthyroidism is not a factor in fibrillation and heart failure; symptoms and basal metabolic rate are about the same with and without cardiac dysfunction. In fact, the heart may be fibrillating and in failure when hyperthyroidism causes no outward evidence of disease.

Persistent auricular fibrillation exists on admission in most thyrocardiac patients and is accompanied by congestive failure in 65% of cases. Fibrillation has no relation to severity of thyrotoxicosis. Cardiac decompensation sometimes occurs with nor-

* Cardiac dysfunction in hyperthyroidism. Am. Heart J. 38:813-822, 1949.

mal sinus rhythm and without any demonstrable organic disease.

Treatment is largely surgical. For those with cardiothyroid dysfunction, operative mortality is nearly 7%, in contrast to 2% or less for thyrotoxicosis as a whole. After thyroidectomy, a few instances of transient auricular fibrillation are noted among the group with no preoperative dysfunction, even if no organic disease is present.

More than half the subjects with prior fibrillation have normal sinus rhythm one to eighteen months after thyroidectomy without special therapy. Spontaneous remission should not be awaited, however. Quinidine given postoperatively is effective in 90% of cases.

Slightly more than two-thirds of the group with heart failure regain and maintain compensation after operation, and episodes are no more likely to recur than with cardiac disease of other origin.

Aureomycin for Bacterial Pneumonia

HARVEY S. COLLINS, M.D., THOMAS M. GOCKE, M.D., AND MAXWELL FINLAND, M.D.*

In acute pneumonia caused by beta hemolytic streptococcus, hemolytic *Staphylococcus aureus, Klebsiella pneumoniae,* or *Hemophilus influenzae,* aureomycin is highly effective.

Effects of the antibiotic on suppurative complications of chronic bronchitis are variable, report Harvey Shields Collins, M.D., Thomas M. Gocke, M.D., and Maxwell Finland, M.D., of Harvard University, Boston. In some cases, however, aureomycin alleviates critical illness after failure of sulfonamides, penicillin, and streptomycin.

The drug was employed in 13 cases of nonpneumococcic pneumonia, chiefly in young adults, and in 20 instances of nontuberculous bronchopulmonary disease affecting an older group.

For bacterial pneumonia 0.5 to 1 gm. of aureomycin hydrochloride is given orally every four to six hours. Doses are reduced with improvement or severe vomiting and increased if inadequate. The average total amount is about 13 gm. administered in four and a half days. Fever usually falls in twelve to twenty-four hours and disappears within two days.

Bronchiectasic patients with suppurative exacerbation receive an average oral dose of 70 gm. in seventeen days, though treatment may be continued much longer. Benefits are limited because susceptible organisms are often replaced by resistant forms such as *Aerobacter aerogenes, Proteus vulgaris,* or *Pseudomonas aeruginosa.*

* Aureomycin therapy of nonpneumococcic and nontuberculous bacterial pulmonary infections. Arch. Int. Med. 84:875-890, 1949.

Progress in Therapy of Blood Dyscrasias

WILLIS M. FOWLER, M.D.*
Iowa City, Iowa

In recent years a number of drugs have been tried in the treatment of dyscrasias of the blood with varying degrees of success. Some of these agents, Willis M. Fowler, M.D., feels, have not fulfilled initial promises, while others have become standard therapy.

One of the most recent and successful developments has been the use of *vitamin* B_{12} in the treatment of pernicious anemia. Not only is prompt hematologic benefit obtained, but the neurologic features of the disease are controlled. A single injection as small as 25 μg. produces good reticulocytosis and increase in the hemoglobin and erythrocyte levels, lasting for at least three or four weeks.

Urethane, a derivative of ethyl phenylcarbamate, has been employed most successfully in cases of myelogenic leukemia. This preparation can be taken by mouth in doses of from 1 to 9 gm. per day. The leukocyte count drops considerably, and the liver and spleen shrink. In addition, the hemoglobin level is raised, and most patients gain weight.

In lymphocytic leukemia, urethane has not proved so successful. The leukocyte count is often greatly reduced without any beneficial effects on the size of the nodes or the patient's general condition. Even satisfactory results are no better than those obtained with roentgen therapy.

The greatest drawback in the use of urethane is the gastric irritation or sedative effect experienced by many patients.

Although *stilbamidine* has been used widely for multiple myeloma, the success of the treatment remains questionable. Given intravenously in doses of 150 mg. at one- or two-day intervals, the drug does relieve pain in many patients. Whether the myeloma cells undergo any degenerative changes, however, is still in doubt. Some patients have severe reactions from the drug.

Since folic acid seems to accelerate the course of leukemia, experiments have been made in treating the disease with folic acid antagonists. *Aminopterin* is the most commonly used of these agents.

Of 16 children with acute and subacute leukemia, 10 had a remission of the disease lasting for as long as three months after aminopterin therapy. Immature leukocytes disappeared from the blood stream, and erythrocyte count and hemoglobin level were increased. Results have been somewhat less satisfactory in the treatment of adults, although some remissions have occurred.

Dosages range from 0.5 to 1 mg. per day. Aminopterin must be used with care since the drug is very toxic.

* Progress in the treatment of blood dyscrasias. J. Iowa M. Soc. 40:51-57, 1950.

The *nitrogen mustards* have been used with good effect in the treatment of Hodgkin's disease and lymphosarcoma, but results are transient and palliative rather than curative. Daily intravenous doses of 0.1 mg. of methyl-*bis* amine hydrochloride per kilogram of body weight are given for four to six days.

Patients who are febrile, losing weight, and have profound subjective manifestations without massive glandular involvement are the best subjects for this material.

As a rule, x-ray therapy is more effective than nitrogen mustard for large tumor masses. In some x-ray-resistant cases however, sensitivity is regained after administration of nitrogen mustard.

The principal toxic effect, which is often extensive enough to invalidate the treatment, is injury to the hemopoietic system. The nitrogen mustards cause severe inflammation if the material escapes into the tissue at the injection site. Nausea, vomiting, anorexia, weight loss, weakness, and headache are other reactions.

Although polycythemia vera and some other diseases can be treated with intravenous *radiophosphorus*, this therapy has no real advantage over conventional methods. A temporary remission of chronic myelogenic leukemia may be induced in the majority of cases, especially if the spleen is not much enlarged, but the acute phase of the disease is not affected by such treatment at all, and other types of leukemia show only slight improvement.

Aplasia of the marrow may develop from the use of radiophosphorus, with possible conversion of polycythemia to leukemia.

A daily oral dose of 20 mg. of *folic acid* produces rapid increase in the hemoglobin level and erythrocyte count in macrocytic anemia, and the levels can be maintained in most patients for a long period of time. The agent is most useful in the treatment of tropical and nontropical sprues in which anemia and gastrointestinal symptoms are corrected. No neurologic complications have been noted in these diseases, since folic acid does not appear to harm healthy nerve tissue.

However, folic acid cannot be used in the treatment of pernicious anemia. The neurologic manifestations of the disease cannot be controlled and may even be augmented by folic acid.

ADDISON'S DISEASE may be effectively treated by intraoral administration of desoxycorticosterone acetate tablets. The usual daily dose is 4.5 mg., although some patients can be maintained on dosages as low as 2 mg., and others require as much as 8 mg. Evelyn Anderson, M.D., of National Institutes of Health, Bethesda, Md., and associates find that this method of giving DCA compares favorably with intramuscular and sublingual dosage and is simpler than either. No toxicity was noted from a polyethylene glycol wax used as a vehicle for the hormone.

J. Clin. Endocrinol. 9:1324-1332, 1949.

Pancreatic Islet Cell Adenomas

E. L. Crain, Jr., M.D., and George W. Thorn, M.D.*
Harvard University, Boston

Because of hypoglycemic effects, pancreatic tumors are frequently mistaken for neurologic, psychiatric, or other gastrointestinal diseases.

The diagnostic triad is unconsciousness or other nervous or gastrointestinal disturbances in the fasting state, blood sugar below 50 mg., and prompt improvement when glucose is administered. Removal of the growth is followed by complete recovery in 84% of cases.

Conditions that produce similar changes are usually differentiated by relatively simple methods. In a case of acromegaly with hypoglycemia after pituitary irradiation, E. L. Crain, Jr., M.D., and George W. Thorn, M.D., discovered 2 insulinomas with the aid of epinephrine and ACTH.

Though most common in the fifth decade, insulinomas have been observed from the age of six and a half weeks to seventy-three years. The majority are 1 to 3 cm. in diameter. More than one tumor may be found, and occasionally the entire pancreas or a part is diffusely involved.

Less than 10% of islet cell tumors are unmistakably malignant. Both benign and carcinomatous forms may occur superficially in the tail or deep in the head and body. Adenomas arise in aberrant pancreatic tissue, and metastases are seen almost anywhere, especially in the liver.

Severe hypoglycemia produces the most extreme changes in nervous tissue, where metabolism is chiefly carbohydrate and the respiratory quotient high. Thus confusion, drowsiness, deep coma, incoordination, noisy behavior, amnesia, convulsions, hemiplegia, or mental deterioration may result, and brain tumor, meningitis, or alcoholism be suspected.

Since hypoglycemia sometimes increases epinephrine production, the only symptoms may be sweating, tremor, pallor, chilling, and palpitation.

Combined factors cause visual disorders such as vertigo, diplopia, transient blindness, nystagmus, and hallucinations. Nausea and vomiting may occur but hunger is rare.

The fasting blood sugar usually falls below 40 mg. With the glucose tolerance test, curves range from flat to diabetic. The majority start low, rise to a point between 100 and 200 mg., and return to the original value.

Oral glucose tests can be invalidated by obesity, undernutrition, or pylorospasm with pooling of glucose solution in the stomach. Longstanding coma may not be abolished immediately by injection of glucose. In some cases, episodic hypoglycemia and reactions vary considerably from time to time.

Pancreatic tumors may be accompanied by other endocrine disorders

* Functioning pancreatic islet cell adenomas. Medicine 28:427-447, 1949.

such as adenoma or hyperplasia of the thyroid, adrenal, pituitary, or thymus glands. Pituitary and adrenal cortical insufficiency are excluded by eosinophil counts before and after injection of 0.3 cc. of 1:1,000 epinephrine solution. A fall of 50% or more indicates reasonably good function. In the same way, adrenal cortical activity is demonstrated by 25 mg. of ACTH.

Insulin-producing tumors should always be extirpated. Before operation a high-protein diet is given, glycogen reserves are built up, and depleted potassium and phosphate replaced. If the basal metabolic rate is above 15, hyperthyroidism should be reduced by iodine therapy.

Ether anesthesia is employed with oxygen intratracheally. Intravenous glucose is started several hours before and continued through surgery.

If islet cell adenoma is evident but not found, more than half the pancreas should be removed. Hyperglycemia usually persists for one to fourteen days after operation, but insulin is rarely required for more than a month.

Adrenal Stimulation for Rheumatic Disease

Z. Z. Godlowski, M.D.*

Rheumatic inflammation of joints or muscles may be greatly reduced by injection of insulin or adrenalin. Function of the entire adrenal gland, including the cortex, is stimulated, although benefits are less spectacular than those from cortisone or ACTH, finds Z. Z. Godlowski, M.D., of Edinburgh University, Scotland.

Hypoglycemia is produced by subcutaneous injection of soluble insulin, starting with 25 units and gradually increased to the point of profuse sweating. Tremor, palpitation, weakness, and drowsiness should develop, but not complete unconsciousness. Superficial and deep reflexes are maintained.

The patient should be able to drink glucose solution to end the condition. He is warned that in rare cases the hypoglycemic state may recur, and possibly require intravenous injection of glucose.

Adrenalin is administered in oil suspension containing 2 mg. per cubic centimeter. A dose of 0.5 cc. is injected subcutaneously three times daily for a week. After preliminary hospital therapy, these injections may be continued by the patient at home.

In a case of advanced rheumatoid arthritis, pain was abolished, joint function improved, and the sedimentation rate lowered by alternate treatment with insulin and adrenalin. Single courses of adrenalin were effective in 2 cases of acute muscular rheumatism.

* Stimulation of the suprarenal glands in the treatment of rheumatoid arthritis. Ann. Rheumat. Dis. 8:285-292, 1949.

Hepatic Components in Physiologic Processes

FRANK C. MANN, M.D.*
Mayo Clinic, Rochester, Minn.

THE liver takes part in one way or another in activities that affect most tissues of the body.

Certain functions of the cellular constituents, arterial and portal circulation, and lymphatic system are outlined by Frank C. Mann, M.D.

Vital *cellular components* are the stellate and hepatic cells. The former line the sinusoids and, as members of the reticuloendothelial system, remove formed particles from the blood. In spite of their name, star cells assume many shapes and may engorge with amazing speed.

Hepatic cells occupy the trabeculae from central vein to periphery of the lobule. Superficially alike, the cells actually differ greatly and change with food ingested and bodily activity. Rapid variations are reflected in liver function tests.

The *circulation* supplies large amounts of blood from two sources, but the arterial share is less compared to tissue weight than in most other organs. Amounts from the hepatic artery and portal vein fluctuate widely, often with inverse relation, so that a greater flow from one often means less from the other.

Hepatic veins, which receive both portal and arterial blood, are able to contract and retard the flow from gastrointestinal tract, pancreas, and spleen. Vascular spasm may be a factor in anaphylaxis, shock, and other types of circulatory collapse.

Thus in healthy dogs, extract of Ascaris causes fatal constriction, but dehepatized animals do not succumb to amounts many times the usual lethal dose.

Lymphatic vessels can be traced to portal spaces, but the exact site of origin is not known. Astonishing amounts of fluid may drain from the liver, and output from cirrhotic tissue is several times the ordinary output. Fat does not leave the liver in lymph, even when hepatic fat is definitely decreasing.

Importance of *bile metabolism* in the liver is shown by the dependable biliary tests of liver function. Bile pigment is manufactured by reticuloendothelial cells throughout the body, including stellate cells, but is excreted only by the liver. Here the bile salts, necessary to fat digestion, are both made and destroyed.

Food metabolism in the liver consists of storage, synthesis, and regulation of supplies for other tissues. Carbohydrates and proteins are received immediately after absorption from the gastrointestinal tract, fat from other regions.

Carbohydrate in glucose and other materials is stored as glycogen. The content alters rapidly and may equal 20% or more of hepatic tissue. The liver usually maintains blood sugar within rather narrow limits but raises

* Hepatic components in various physiologic processes. J. Indiana M. A. 43:101-105, 1950.

the level on loss of the pancreas, etherization, asphyxia, and injection of epinephrine.

Galactose and numerous other products of digestion are transformed by hepatic cells into forms available to other tissues. Plasma protein supply is controlled by hepatic activity.

The liver mobilizes and demobilizes fat by complex mechanisms. When glucose is not available for oxidation of other tissues, fat is apparently provided in ketone bodies.

Coagulation of the blood depends on hepatic formation of fibrinogen and prothrombin. When rats are cannulated and drained of all intestinal lymph, excessive bleeding starts in a few hours, and all clotting ceases in eighteen hours. But even if drainage continues, doses of vitamin K prevent or correct prothrombin deficiency. Evidently the vitamin is absorbed only by the lymphatics, and both prothrombin and vitamin K have a relatively short life.

Chloride Output of the Stomach

JOHN R. BROOKS, M.D., AND ASSOCIATES*

SECRETORY activity of the stomach is more accurately reflected by the rate of chloride output than by free and total acidity of aspirated contents.

The dye dilution method was employed by John R. Brooks, M.D., John M. Erskine, M.D., Thomas Gephart, M.D., Oliva Swaim, and Francis D. Moore, M.D., of Harvard University, Boston, for determinations of persons in good health, patients with duodenal ulcer, and some who had undergone vagotomy.

A measured quantity of phenol red dye is instilled into the stomach and aspirated ten minutes later. From the resultant dilution and the amount of dye recovered, total gastric secretion and the portion lost through the pylorus are calculated. The chloride output per minute is the absolute rate of chloride secretion by the whole stomach.

The average value for a healthy adult is 0.24 milliequivalent per minute and for a subject with ulcer 0.41. Vagal resection lowers the rate to 0.18 milliequivalent, with average levels of 0.29 during the first six months and 0.14 thereafter.

The rate of evacuation through the pylorus is approximately 6 cc. per minute for healthy persons or those with ulcer. After nerve resection the rate falls to 3.5 cc., and regurgitation is much more common.

* The chloride output rate of the human stomach in healthy subjects and ulcer patients; the effects of vagotomy and acetylcholine. Surg., Gynec. & Obst. 90:155-170, 1950.

Serum Cholesterol in Thyroid Disease

JOHN P. PETERS, M.D., AND EVELYN B. MAN, Ph.D.*
Yale University, New Haven, Conn.

CHOLESTEROL determination has only limited value in the diagnosis or the control of thyroid disorders.

Although cholesterol rises with clearcut, uncomplicated hypothyroidism, levels do not correspond with grade of deficiency. Hyperfunction is not shown.

The reliability of cholesterol as a measure of thyroid activity was compared with a more specific index, the serum precipitable iodine, by John P. Peters, M.D., and Evelyn B. Man, Ph.D. Subjects with and without thyroid dysfunction were observed; the majority of patients were from the metabolic division of the New Haven Hospital.

The serum precipitable iodine was measured by the method of Riggs and Man. Thyroid status was also determined by basal metabolic rates and response to iodine and thiouracil.

Relations between SPI and serum cholesterol in patients with or without thyroid disorders are remarkably similar. In either case, cholesterol does not follow SPI variations in the upper normal range or above.

Several factors may decrease blood cholesterol, for instance, malnutrition and injury. The concentration is sharply reduced after operation and may be lowered by infectious disease, pernicious anemia, pneumonia, advanced tuberculosis, diabetes, and arteriosclerotic heart failure.

In general, SPI corresponds with basal metabolism during treatment, but serum cholesterol differs considerably. Levels rise in hypothyroidism, yet are not necessarily depressed by excessive thyroid activity.

When frank hypothyroidism develops under the influence of thiouracil, cholesterol increases. However, after a dose of thyroid too small to restore normal thyroid activity, cholesterol falls sharply while metabolism slowly accelerates.

Serum cholesterol is low during transitory postoperative hypothyroidism or with inadequate treatment for hypofunction. Yet healthy persons do not have high values when obese or after overeating.

With hypothyroid pituitary disorders, low SPI is seldom accompanied by high cholesterol. In a case of hypothyroidism with diabetes and nephritis, cholesterol remained extremely high during a temporary phase of hyperthyroidism.

When hypermetabolism is reduced by iodine, cholesterol rises perceptibly, but elevations are extremely variable and not related to metabolic changes. As a rule, values are normal during uncomplicated hyperthyroidism.

Cholesterol is capricious with slight degrees of hypothyroidism and is not

* The significance of serum cholesterol in thyroid disease. J. Clin. Investigation 29:1-11, 1950.

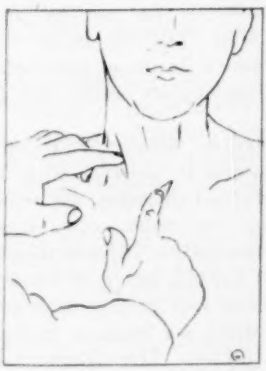
likely to reveal a deficit secondary to pituitary or adrenal insufficiency in a patient.

Reduction of SPI is not correlated with serum albumin deficit, since low values are noted with nephritis when albumin is only slightly reduced. But low SPI without hypothyroidism occurs during advanced cirrhosis and in patients with other destructive processes involving the liver.

SEVERE, PROTRACTED HICCUPS can be treated with a pulsating galvanic sinusoidal current. Numerous remedies have been recommended, including bilateral phrenectomy as a final resort, but this is a serious procedure, particularly in aged patients who are the most likely to have hiccups. Frank George Barnard, M.D., of Montclair, N. J., finds that galvanic stimulation does not tire patients unduly even when repeated every three or four hours. The treatment is administered in three steps of twenty minutes each. First, the current is administered through two square 2-in. sponge electrodes, previously soaked in saline solution, placed on either side of the cervical spine at the fourth cervical vertebra. Next, a 2-in. pad is placed on the side initiating the reflex, in the fourth cervical region, and a 4-by-6-in. pad is placed over the diaphragm at the anterior axillary line and the eighth rib. Finally the pads are applied to the opposite side. Galvanic therapy may relieve the hiccup in one treatment or may be required for two or three days.

Am. J. Surg. 77:210-214, 1949.

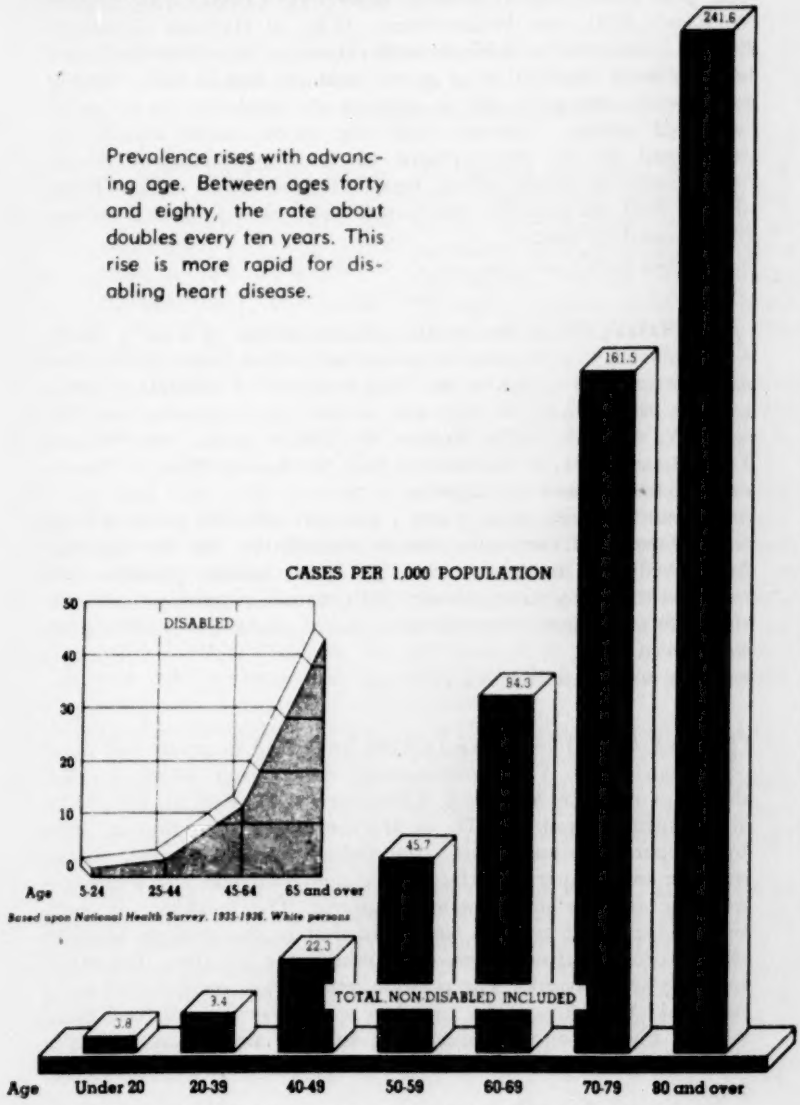
TRICUSPID STENOSIS may be diagnosed by the finding of a presystolic impulse in the jugular vein in congestive heart failure. Harry Vesell, M.D., of Beth Israel Hospital, New York City, has never found this phenomenon without tricuspid stenosis. The impulse can be timed by comparison with the systolic aortic impulse in the episternal notch. A seesaw movement is conveyed to the two palpating fingers by the two vascular pulsations (see illustration). The impulse over the jugular vein is probably caused by the contraction of the hypertrophied right atrium, transmitted to the neck because of the obstruction at the stenotic tricuspid orifice.



Am. J. Med. 7:497-500, 1949.

INCIDENCE OF HEART DISEASE IN DIFFERENT AGE GROUPS*

Prevalence rises with advancing age. Between ages forty and eighty, the rate about doubles every ten years. This rise is more rapid for disabling heart disease.



* Adapted from material issued by the Metropolitan Life Insurance Co., New York City.

ENTERIC-COATED ASPIRIN has the same analgesic effect as uncoated aspirin yet does not cause gastric discomfort. Relief from pain is only slightly delayed. Robert H. Talkov, M.D., Marian W. Ropes, M.D., and Walter Bauer, M.D., of Harvard University, Boston, found that 20 patients with rheumatic disorders who could take no more than 30 to 50 gr. of common aspirin daily without gastric symptoms were able to increase the intake by 20 to 40 gr. in coated tablets. Tolerance with the enteric-coated aspirin was determined by the development of toxic symptoms of central origin, since no gastric effects appeared. The coated tablets might also be used for patients with peptic ulcer or with gastric hemorrhage caused by aspirin.

New England J. Med. 242:19-20, 1950.

AUREOMYCIN in therapeutic concentrations of 2 to 4 micrograms may be obtained in serum twelve hours after intravenous administration of 0.5 gm. of the drug in 250 cc. of physiologic saline solution. This dosage is suggested as the most satisfactory by Raymond V. Randall, M.D., Robert W. Taylor, M.D., and William E. Wellman, M.D., of the Mayo Clinic, Rochester, Minn. A No. 17 or 18 needle is used for injection to insure a flow of at least 30 cc. per minute. Dosages of 0.75 and 1 gm. give effective concentrations for eighteen and twenty-four hours respectively, but the eighteen-hour schedule is inconvenient and the larger amount produces such transient toxic reactions as fever, chills, nausea, vomiting, and backache. None of these reactions were noted when the smaller doses were given.

Proc. Staff Meet., Mayo Clin. 24:605-611, 1949.

THREE CORONARY ARTERIES are found in about half of all human hearts. The supernumerary third vessel, which is called the conus artery by Monroe J. Schlesinger, M.D., Paul M. Zoll, M.D., and Stanford Wessler, M.D., of Harvard University, Boston, arises by a separate ostium behind the right aortic valve cusp, courses over the anterosuperior surface of the right ventricle, and terminates near the anterior interventricular groove. The incidence of occlusion in this third vessel is similar to that in the primary branches of the coronary arterial tree, but considerably less than that in the coronary artery trunks. The position and the low incidence of occlusion make the conus artery useful as a pathway for collateral blood supply. The presence or absence of such an artery may determine the severity of myocardial damage due to occlusion in the coronary arteries.

Am. Heart J. 38:821-836, 1949.

Personality and Ulcerative Colitis

V. P. Mahoney, M.D., H. L. Bockus, M.D., Margaret Ingram, J. W. Hundley, M.D., and J. C. Yaskin, M.D.*

University of Pennsylvania, Philadelphia

Patients with ulcerative colitis are complex neurotics who have had major disturbances of parent-child relationship and other traumatic experiences in early life.

V. P. Mahoney, M.D., H. L. Bockus, M.D., Margaret Ingram, J. W. Hundley, M.D., and J. C. Yaskin, M.D., used psychiatric interviews and the Rorschach test to study the personality makeup of 20 patients with nonspecific or idiopathic ulcerative colitis.

The interviews revealed tension, inability to assert self, and sensitivity in all 20 patients; anxiety, hostility, and immaturity in 19; guilt and indecision in 18; passivity in 16; dependency and conscientiousness in 15; aggression and perfectionism in 12; and aestheticism in 6.

These observations justify the statement that the person suffering from ulcerative colitis is a neurotic individual. Furthermore, the physical effects of ulcerative colitis were not responsible for the neurotic traits, nearly all of which existed long before the colitis. However, the disturbance in the colon undoubtedly activated latent neurotic trends and increased existing psychopathologic aberrations.

The basic premises:

► Most neurotic traits exist in the normal individual but in a degree, quality, and combination conducive to satisfactory everyday adjustment. Some tension, aggression, dependency, and the like, including feelings of anxiety, guilt, and hostility, are necessary seasonings of daily activities.

► In the neurotic, such characteristics differ in degree, quality, and combination and cause pathologic reactions.

► From a psychopathologic standpoint, many of the traits reflect conversions, substitutions, projections, and compensations. Thus, for instance, early guilt feelings are conducive to anxiety, hostility, and aggression; or to passivity, dependency, and indecision; or to a combination of both.

► Simultaneous existence of contradictory personality components results in emotional disequilibrium, usually at the unconscious level, manifest by physiologic and psychologic disturbances.

Intellectual aspects, as studied by the Rorschach test in 19 of the 20 patients,[1] revealed the following:

Of the 19 patients, 17 had at least high mentality, but performance in 16 was decreased because of conflict; 2 were capable of flexibility in thinking; 9 patients were perfectionists;

* Studies in ulcerative colitis: a study of the personality in relation to ulcerative colitis. Gastroenterology 13:547-563, 1949.

and 18 were able to think along group lines. Only 4 had ambition; 2 had a compulsive drive to achieve beyond their capacity, and 2 manifested ambition within the limits of capacity. In most instances ambition was far below capacity.

Further studies with the Rorschach test showed that 17 of the 19 patients had at least average emotional responsiveness to environment; 7 could not establish stable emotional relationships; 2 were overly controlled in emotional responsiveness; 5 manifested considerable depression; 11 made excessive use of phantasy life; and 7 showed a large degree of compulsiveness.

Problems in relation to their mother existed in 17, while 11 had problems in relation to their father and 11 in relation to both parents. Only 2 showed signs of sibling rivalry. In 10 of the patients, masculinity or femininity was not established; 1 showed psychotic trends.

The paucity of the inner lives of these people is seen in the fact that only 3 had capacity for creative or imaginative thinking. No hobbies or absorbing interests were found among this group of 20 persons.

By means of psychiatric interviews, factors in the patients' early lives were investigated for possible explanation of the personality traits. A history of ulcerative colitis in the family was found in only 3 cases.

Of the 20 patients, 14 noted emotional illness in their families; 10 in the mother, and 7 in the father. All the patients had disturbed relationship with their mothers. Open rejection by the mother was evident in half the cases. Excessively strict fathers were reported in 11 cases, and an equal number of patients felt discriminated against in the affection they received in comparison to that given their siblings.

Early insecurity is evident from the fact that none of the patients was the oldest child in the family, and 9 of the 20 were the youngest or only children.

Only 3 had gastrointestinal problems in childhood. However, 18 patients had severe early traumatic life situations such as being forced to attend or leave school, major marital difficulties of parents, rejection by peers, and painful sexual incidents.

Despite the similarity to many individuals with other disease entities, ulcerative colitis patients appear to be unable to meet everyday problems and cannot assert themselves as other neurotic people can.

Why the colon is the site of localization is as yet unanswered.

OBSCURE OBSTETRIC SHOCK resulting in death may be due to pulmonary embolism by particulate contents of amniotic fluid. Necropsy will show the presence of foreign bodies in the pulmonary arteries, arterioles, and capillaries. Paul E. Steiner, M.D., Clarence C. Lushbaugh, M.D., and H. A. Frank, M.D., of the University of Chicago warn, however, that such a diagnosis should not be accepted unless verified by postmortem findings.

Am. J. Obst. & Gynec. 58:802-805, 1949.

Significance of the Fetal Heart Rate

LEO M. ABRAHAM, M.D., AND ISADORE DYER, M.D.*
Touro Infirmary and Tulane University, New Orleans

AUSCULTATION of fetal heart tones yields important information from early pregnancy to birth.

Any condition which interferes with the oxygen-carrying system of the fetus or stimulates the vagus impulses will be manifest by a change in the beat, explain Leo M. Abraham, M.D., and Isadore Dyer, M.D.

The most serious indication of fetal anoxia is a persistently slow or irregular beat. Before the rate drops to 100, the baby should be delivered by the most rapid method feasible. Transient tachycardia may be unimportant, but a progressively high rate is sometimes the earliest sign of abruptio placenta or other hazard.

When a fetal heart beat is not audible and the uterus is enlarged, fetal death, hydatiform mole, multiple pregnancies, uterine tumor, or spurious pregnancy may be a possibility.

VARIATIONS

Early pregnancy—Fetal heart tones are usually heard by the eighteenth week of gestation and occasionally as early as the fourteenth week. At onset the rate is about 150 per minute. The sound is generally audible in the midline just above the bladder.

Late pregnancy—The fetal heart rate in late pregnancy varies from 120 to 170 beats per minute and at some time in the last two months commonly rises to 160 or more. Fetal activity or manipulation of the child's head during abdominal palpation may change the rate, which can also be accelerated or depressed by vaginal or rectal examination. Tones are obscured by such factors as obesity, loud maternal pulse, and polyhydramnios.

During labor—Uterine contractions, deep sedation, or drop in maternal blood pressure during spinal anesthesia may reduce the rate of fetal heart beat.

Rapid rates up to 170 or 180 are no cause for alarm if labor pains are not unduly strong or close together and if the tachycardia does not last more than twenty minutes. Transient acceleration of beat may result from fetal movement, application of forceps, pressure of the head on the perineum, uterine contraction, or rectal or vaginal examination.

Premature separation of the placenta may be revealed before onset of hemorrhage by persistent, pronounced tachycardia. As the area of placental attachment is reduced, fetal circulation accelerates until asphyxia occurs and the heart rate finally falls.

Slow rate may indicate other causes

* Significance of the fetal heart rate in pregnancy and labor. New Orleans M. & S. J. 102:245-248, 1949.

of fetal-oxygen deficiency such as a short or knotted cord, a loop around the neck, or prolapse.

Irregularity lasting one-third to one-half the interval between contractions usually indicates constriction of the child's neck. If irregularity continues throughout the interval, the baby is threatened by asphyxia.

MANAGEMENT

Operative vaginal delivery should never be attempted unless all accepted conditions for the operation are present.

If the heart tones indicate fetal distress in the first stage of labor, vaginal delivery is seldom feasible and cesarean section may be necessary, especially if the mother is an elderly primipara, cephalopelvic disproportion is present, or the cervix is rigid.

Late in the first stage, emergency delivery may be possible by either of two vaginal procedures. If the cervix is not completey dilated, Duhrrsen's incisions may be performed, or the mother may be urged to use her contractions if, by so doing, delivery can be produced in a short time. Oxygen should be administered; saddle-block anesthesia should not be used in such cases.

With fetal distress in the second stage of labor, delivery should be done at once by the least traumatic method. If the mother is a multipara with no cephalopelvic disproportion and the head too high for forceps, version and extraction are done. With breech presentation, immediate extraction is done.

NAUSEA AND VOMITING OF PREGNANCY may be stopped by pyridoxine and adrenal cortical extract. A 25-mg. dose of vitamin B_6 is injected intramuscularly with 0.5 cc. of extract of suprarenal cortex. Charles W. Dorsey, M.D., of Roanoke, Va., always repeats the injection twenty-four hours later, whether the first dose is effective or not, and again if nausea returns. When no other complication is present, 5 doses usually suffice. In a group of 62 patients, symptoms were eliminated in 56, much reduced in 2, and unaffected in only 3. Results were equivocal in the other case.

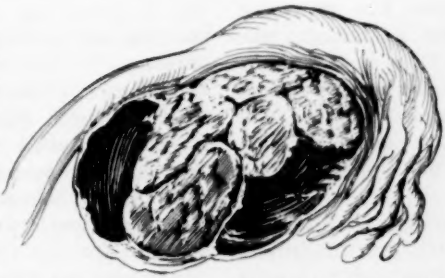
Am. J. Obst. & Gynec. 58:1073-1078, 1949.

VAGINAL MYCOSIS may be eradicated by ricinoleic acid. A 3% concentration in a buffered jelly containing tragacanth, acacia, and 0.1% oxyquinoline sulfate was used by 98 women. Every night, 5 cc. was deposited deep in the vagina with a plastic syringe. H. Close Hasseltine, M.D., and Edmund S. Beckette, M.D., of the University of Chicago report that symptoms quickly abated, though fungi usually persisted two to eight weeks. Cures were achieved for 74% of pregnant and 90% of nonpregnant women.

Am. J. Obst. & Gynec. 58:553-558, 1949.

Macroscopic Diagnosis of Ovarian Cancer

H. F. BETTINGER, M.D.*
Women's Hospital, Melbourne



THE differentiation of malignant from benign ovarian tumors can often be made at the operating table.

Inasmuch as the capacity for invasion of an ovarian neoplasm largely determines the extent of the surgical procedure, macroscopic criteria of malignancy are important to the gynecologic surgeon. Under ideal circumstances, immediate frozen sections at time of operation usually reveal the true diagnosis, yet H. F. Bettinger, M.D., believes that such study is sometimes impossible.

► Of the traits of a tumor that assist in diagnosis, size may first be considered. If exceptionally large, the lesion is most likely benign, since death usually supervenes before a malignant growth attains great size. However, recent sudden increase in dimensions always suggests malignancy.

► A tumor that is cystic throughout, whether uni- or multilocular, is likely to be benign. Often the contents are distinctive, as in the case of a pseudomucinous cystadenoma.

► Flat, rounded, hard protuberances covering portions of the walls of cystic lesions associated with papillary formations indicate a benign tumor. If luxuriant papillary growth fills considerable portions of the cystic neoplasm, the finer, more delicate, and dendritic the papillae are, the more likely that the tumor is not cancerous.

When these projections are succulent, soft, large, and friable, however, malignancy of the tumor is to be suspected.

Growth of the papillary tissue on the external cyst wall is not significant for differentiation.

► The finding of solid tumor tissue within cystic neoplasms is an indication of malignancy except in two varieties of pseudomucinous cystadenomas—the microcystic variety which, when cut and squeezed, expels comedo-like contents on the cut surface, and the benign Brenner tumor which is found as a hard and whitish nodule in a pseudomucinous cystadenoma.

► Among the ovarian tumors that are solid, not cystic, the hard lesions are probably benign. A hard, white cut surface with whorling is ordinarily a benign fibroma or a fibromyoma. If yellowish, the growth

* The macroscopic diagnosis of malignancy in ovarian tumors. M. J. Australia 2:710-711, 1949.

is apt to be the equally benign theca-cell tumor.

► Of the soft, solid tumors, the dysgerminoma may be recognized. The malignancy of this neoplasm, which resembles brain tissue in appearance and consistency, cannot be definitely determined but the tumor is less invasive than a seminoma, the male counterpart.

The dysgerminoma may be treated effectively by simple extirpation if well-encapsulated, not adherent to adjacent structures, and appearing in a young woman.

► Most soft, solid ovarian tumors, especially if friable, are malignant. An elastic sensation on palpation identifies soft edema superimposed on an originally hard lesion. The exploring finger will penetrate the surface of a friable, malignant neoplasm.

► Bilateral involvement indicates a malignant process, although a unilateral lesion is not necessarily benign.

► Extensive adhesions to the surrounding structures and extension and tumor deposits denote a cancerous growth.

The degree of malignancy cannot usually be determined by macroscopic examination. Additional factors such as the structure of the tumor and the patient's age and number of children will influence the extent of surgery.

Solid ovarian neoplasms associated with hormonal disturbances usually have only limited invasiveness. Cancerous cystic tumors are generally thoroughly malignant. Unlike the testicular counterpart, a solid teratoma of the ovary is not invariably malignant, but since the distinction cannot be determined at operation, complete surgical eradication is advisable.

Ascites may frequently occur with malignant ovarian tumors, but excessive intraperitoneal fluid occasionally accumulates in association with benign lesions, especially with fibromas and certain papilliferous cystadenomas.

ANALGESIA IN LABOR is satisfactory with subcutaneous dosage of Nu-1196. The short action of the drug allows flexibility by repeated administration. E. J. Smith, M.D., and S. F. Nagyfy, M.D., of the University of Iowa, Iowa City, report that Nu-1196, the compound 1, 3, dimethyl-4-phenyl-4-propionoxy piperidine hydrochloride, has only a moderate hypnotic effect on the mother. No fetal deaths were attributable to the drug in 186 deliveries. Nu-1196 is given subcutaneously in 10- to 30-mg. amounts at one-hour intervals when labor is definitely established. The degree of analgesia is less with oral administration. When scopolamine is added, fetal depression is greater than when Nu-1196 is used alone. Morphine alone or in combination with prostigmine gives less effective analgesia than Nu-1196. In large doses, Methadon produces results similar to those of Nu-1196, but fetal depression is much greater.

Am. J. Obst. & Gynec. 58:695-702, 1949.

The Long-Cuff Endotracheal Tube

RALPH T. KNIGHT, M.D.*
University of Minnesota, Minneapolis

ARTHUR B. TARROW, M.D.*
Major, U.S.A.F.

A TUBE with inflated rubber cuff fully protects the throat during intratracheal anesthesia. Since the larynx is sealed from above by a soft balloon, secretions are easily removed and vomited substance is not inhaled. Vocal cords are not damaged by long procedures. During intubation of 138 persons in one typical month for surgery lasting a few minutes to several hours, no irritation of the tracheal mucosa was observed.

Ralph T. Knight, M.D., and Maj. Arthur B. Tarrow, U.S.A.F., make the long-cuff endotracheal tube by hand, producing any size or shape desired with standard, readily obtained materials. The device may be angled or curved, suitable for child or adult. A form 30 cm. long is employed for animals.

Davol rubber laboratory tubing is most satisfactory, although other stock types may be used, including plastic. Condoms, French No. 8 catheters, small Penrose drains, rubber cement, Miracle cement, scissors, sandpaper, and talcum powder are also needed.

Several tubes can be made at one time. The ordinary adult size is $\frac{5}{16}$ by $\frac{1}{16}$ in. with a length of 23 cm., corresponding to the Lundy No. 6 type.

A section of tubing is cut off; one end is beveled and smoothed with sandpaper. A quick method is to char the end over a flame, wipe with noninflammable chloroform, and dust with talcum powder.

A 1-cm. cut is made in the flared end of the French catheter intended for inflation of the cuff. The flare is flattened and fastened to the concave curvature one-third of the distance from the beveled end by rubber cement and a circlet of Penrose drain. The catheter is held out of the way by another circlet over the unbeveled end, and the tube is straightened with a long wooden applicator forced into the lumen.

About one-third the distance from the unbeveled end, Miracle cement is placed around the catheter and allowed to dry for twenty minutes. The substance is then molded and the catheter firmly sealed to the tube, which is set aside for twenty-four hours while the cement hardens.

To form the cuff, a 1- or 2-mm. hole is punched in the end of a rolled condom, water-soluble jelly is applied to the bevel, and 3 cm. of tube is pushed through the hole. The tube is ringed with rubber cement here and at the level of the Miracle cement.

The condom is molded over the first ring of glue, stretched in tight pleats, sealed at the other end, and

* The long-cuff endotracheal tube: its manufacture and use. U. S. Armed Forces M. J. 1:58-64, 1950.

cut off. At this point strips of condom are wound, cemented in layers, and covered with Penrose drain.

An Adams connector for the anesthesia machine is attached to the unbeveled end of the tube, and a 15-gauge needle with blunted point is inserted into the free end of the catheter. Inflation of the rubber cuff is controlled by a water manometer.

Before anesthesia, the tube is fitted along the neck for size. With the right length, the far end reaches the suprasternal notch. The instrument is usually inserted through the mouth.

The cuff is inflated to a pressure of 16 cm. of water. As a safeguard against undue tension on the vocal cords, the balloon is deflated every fifteen to thirty minutes during operation.

After use the tube is washed with soap and water, then soaked for an hour in germicidal solution such as aqueous Zephiran chloride. Although the cuff may stand only a few operations and is replaced frequently, the basic tube is durable.

The tube with slight variations, was previously described by John E. Grimm, M.D., and Ralph T. Knight, M.D.

Tumors of the Ampulla of Vater

RICHARD B. CATTELL, M.D., AND LUDWIG J. PYRTEK, M.D.*

AMPULLARY tumors are uncommon and may not be detected, even when obstructive symptoms develop.

Calculi or biliary dyskinesia may be suspected, and occasionally repeated operations are done without giving relief. In surgery of doubtful cases, Richard B. Cattell, M.D., Boston, and Ludwig J. Pyrtek, M.D., Hartford, Conn., take special care to palpate accurately and perform biopsy.

In the Lahey Clinic, Boston, 2 benign papillomas and 4 carcinomas were observed at the ampulla of Vater during 175 operations for pancreatic tumor. The cancers apparently originated in nonmalignant lesions such as polyps and adenomas.

For careful palpation of the lower common duct, surrounding tissues should be freed. Cancer is usually recognized by the dilated biliary tree and duct of Wirsung and by touch, after mobilization of the duodenum and pancreatic head. If the nature of the lesion is obscure, duodenotomy should be performed and a specimen obtained for frozen section.

Since carcinoma of the ampulla is slow to metastasize, a radical operation may succeed. Most or all of the duodenum is removed with the head, neck, and uncinate process of the pancreas, the lower portion of common duct, and if necessary part of the jejunum.

* Premalignant lesions of the ampulla of Vater. Surg., Gynec. & Obst. 90:21-30, 1950.

Splanchnicectomy for Chronic Pancreatitis

PIERRE MALLET-GUY, M.D., AND MICHEL JAUBERT DE BEAUJEU, M.D.*
University of Lyon, France

PERSISTENT or recurrent pancreatitis may be checked by unilateral section of the great splanchnic nerve.

Pierre Mallet-Guy, M.D., and Michel Jaubert de Beaujeu, M.D., report satisfactory results in 84% of cases. Of 70 persons undergoing neurotomy, 37 were observed postoperatively for one to six years.

In most cases sympathectomy was done for inflammation involving chiefly the pancreatic body and tail, without severe biliary stenosis or total obstruction. Results were best when the common bile duct was hypotonic.

However, splanchnicectomy may be indicated when inflammation is diffuse, with some involvement of the head.

The operation often improves pancreatitis associated with gallstones, partial obstruction of the common duct, or other biliary disease.

The splanchnic nerve may be sectioned on the left or right when no other therapeutic measure is feasible. Neurotomy is simple, relatively innocuous, and easily combined with cholecystectomy or temporary cholecystostomy.

Interruption of nervous impulses may succeed after more drastic operations have failed to bring relief. Both early and late effects contrast with the notoriously poor and transitory results of biliary surgery for pancreatitis.

Most important of all, neurotomy can be adapted to various situations. If postoperative improvement is not satisfactory, the opposite nerve may be blocked or resected with good effect. When neurotomy proves to be futile, partial pancreatectomy can still be attempted.

In case the common duct is slightly hypertonic, infected, or compressed, the obstructive condition may be corrected by drainage or anastomosis and sympathectomy done as a second procedure.

Splanchnicectomy is much more than a means of dulling pancreatic pain. Benefits are probably the result of vasomotor relaxation. Without sympathetic stimuli, inflammatory sclerosis subsides, or a vicious cycle of recurrence is broken.

Chronic pancreatitis may be recognized by a definite syndrome. Diarrhea is often the outstanding symptom, and certain foods may be hard to digest. Long illness results in emaciation. Discomfort varies from pressure sensations or moderate pain in the epigastrium, left hypochondrium, and left dorsolumbar area to acute paroxysmal attacks.

Pancreatic and biliary dysfunction may be shown by laboratory tests. On radiography, duodenal distortion and calcareous deposits in the pan-

* Treatment of chronic pancreatitis by unilateral splanchnicectomy. Arch. Surg. 60:233-241, 1950.

creas are sometimes seen. The exact site of pancreatic lesions and the condition of the bile ducts are investigated in the operating room, under manometric and roentgen control.

Sympathectomy is done in the subperitoneal lumbar region. At least 3 cm. of the great splanchnic nerve is removed on either side, and in some cases small fibers are sectioned near the diaphragm, at the horn of the semilunar ganglion.

If operation is effective, symptoms often subside at once, particularly if the common bile duct is widely patent. In some instances slight pain will continue to be felt on palpation or after dietary excess, but most patients return to an active life.

Spontaneous Nontuberculous Pneumothorax

RICHARD H. MEADE, JR., M.D., AND BRIAN B. BLADES, M.D.*

OPEN thoracotomy is the most successful treatment for recurrent spontaneous pneumothorax of nontuberculous origin, if simple aspiration of air or induction of chemical pleuritis does not achieve rapid effect.

The open approach allows direct study of the involved lung and usually reveals the site of air leakage. In most cases, Richard H. Meade, Jr., M.D., of St. Mary's Hospital, Grand Rapids, Mich., and Brian B. Blades, M.D., of George Washington University, Washington, D.C., find that rupture of a peripheral bleb is responsible for the perforation.

If collapse has continued for some time, a closed method should be used only for division of isolated adhesions. The lung may be encased in a sheath of fibrous tissue necessitating decortication.

Emphysematous blebs or cysts may be closed by suture without removal of tissue. In other cases excision of the lesion or even lobectomy may be necessary.

If many small blebs are noted or no lesion is found, the pleural surface may be dusted with talc mixed with 0.3 to 10 gm. of sulfanilamide crystals. Cystic areas are sometimes infolded into healthy lung tissue. A peripheral fistula or ruptured bleb held open by a fibrous band may be closed by cutting the adhesion.

Occasionally large areas of thickened membrane are incised and peeled off.

No grave complication or recurrence was noted in a series of 19 cases. Most of the patients recovered in two weeks after operation and the others within two months.

* The surgical treatment of recurrent and chronic spontaneous pneumothorax of nontuberculous origin. Am. Rev. Tuberc. 60:685-698, 1949.

Jejunal Obstruction after Partial Gastrectomy

WILLIAM F. QUINN, M.D., AND JOHN H. GIFFORD, M.D.*
College of Medical Evangelists, Los Angeles

ANTECOLIC anastomosis of the stomach and jejunum after subtotal gastric resection may be the cause of rapidly fatal intestinal blockade.

The accident occurs only if the proximal jejunal limb is placed on the lesser gastric curvature (Fig. *a*). The mesentery of the distal loop is thus twisted and shortened and may compress the proximal limb against the transverse colon (see illustrations). Obstruction is released by uniting the distended and collapsed jejunal loops.

William F. Quinn, M.D., and John H. Gifford, M.D., identify the condition by the attendant severe continuous pain and by total lack of bile in the vomitus; also by the fact that vomiting is not repeated or profuse.

Jejunal obstruction is possible because the root of the small bowel mesentery follows an oblique line, starting just to the left of the second lumbar vertebra and ending in the lower right abdominal quadrant, opposite the sacroiliac joint.

When the distal loop of jejunum is attached to the greater curvature, the mesentery is twisted about 135 degrees from the oblique line of the root. Length of the distal loop mesentery is so reduced by torsion that the proximal loop may be trapped between mesentery and colon.

A completely obstructed loop fills with bile and pancreatic juice, distends, and soon becomes gangrenous (Fig. *c*).

In all cases sudden unrelenting pain is felt in the epigastric region or upper left quadrant. Shock ensues. Vomiting is not frequent or profuse and contains neither bile nor material from the small bowel.

A mass may or may not be palpated in the left upper quadrant. Though sometimes distended, the abdomen is occasionally soft and not enlarged. Since the involved segments contain no swallowed or gas-forming bacilli, radiography does not show distention of the small intestine.

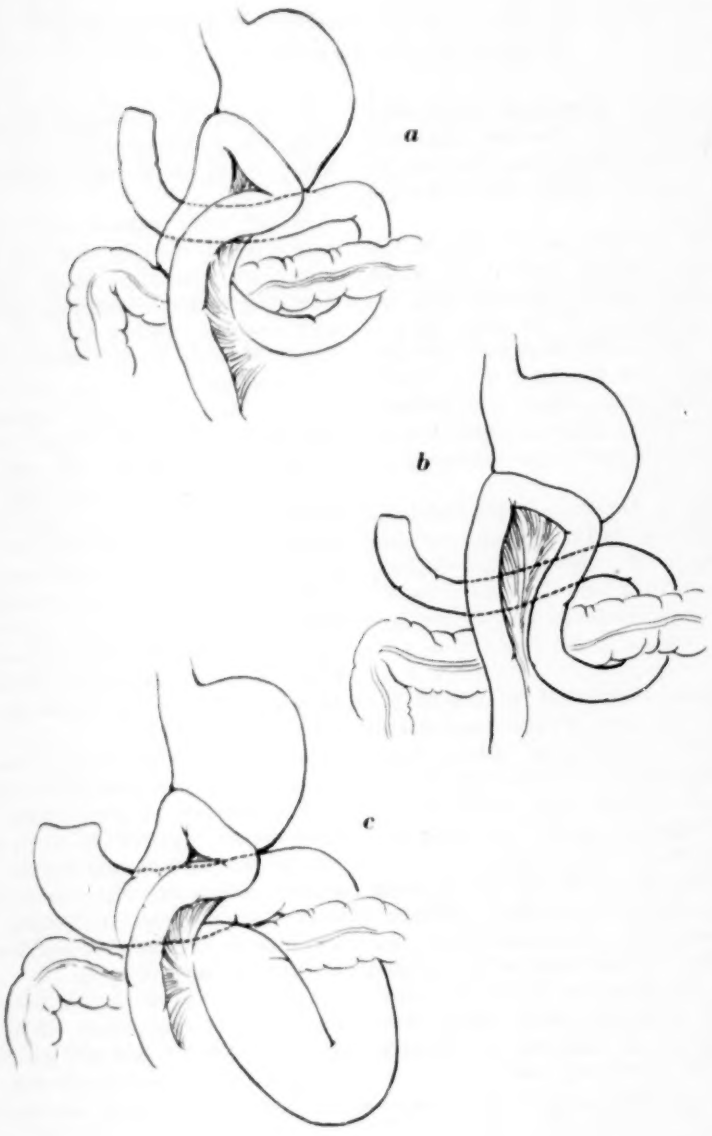
Recovery depends on immediate diagnosis and restoration of bowel continuity. Not only is prompt operation successful, but the condition for which the original operation was done may never recur.

At the time of anterior gastric resection, the bowel should be joined to the stomach in the easiest and most natural manner. If the proximal jejunal loop is attached to the greater curvature with the distal loop along the lesser curvature, the mesentery is not displaced and length remains the same (Fig. *b*).

A section of jejunum near the duodenum can be used, where the bowel is ready to receive acid and probably will not ulcerate postoperatively.

* The syndrome of proximal jejunal loop obstruction following anterior gastric resection. California Med. 72:18-21, 1950.

MESENTERIC TORSION AFTER GASTRIC RESECTION



Since gastric contractions are directed toward the pylorus, placing the distal loop at the lesser curvature is relatively isoperistaltic. If much of the lesser curvature is removed and the loop is rather high, the chance of gastric dumping is decreased.

The antiperistaltic technic of anterior long loop anastomosis produced mechanical obstruction in 5 of 500 cases. The syndrome began a few days after operation in 4 instances, two years later in 1. With conservative therapy, 3 persons died, 1 within eighteen hours.

Surgical decompression in the other 2 cases was successful.

Intercoronary Arterial Anastomoses

HERRMAN L. BLUMGART, M.D., PAUL M. ZOLL, M.D., A. STONE FREEDBERG, M.D., AND D. ROURKE GILLIGAN*

EARLY ambulation is not advisable after acute myocardial infarction. Bed rest is essential and activity should be curtailed for many weeks for patients with angina pectoris whose attacks suddenly become more frequent or intense.

Herrman L. Blumgart, M.D., Paul M. Zoll, M.D., A. Stone Freedberg, M.D., and D. Rourke Gilligan of Beth Israel Hospital and Harvard University, Boston, base these conclusions on finding that after 75% narrowing of a large artery in the pig's heart, growth of adequate collateral channels requires at least twelve days. Dogs are not used in such experiments because the canine heart naturally has large intra-arterial connections.

Death usually results within twenty minutes after sudden complete blockade or restriction to less than 13% of the right coronary lumen in midcourse, or of the left anterior descending artery near the origin.

With moderate patency of 15 to 19% and survival of a few hours to one week, some new vessels form but not enough to protect the heart from effects of subsequent complete occlusion.

But if subjects live twelve or more days after moderate narrowing of a main artery, a rich network of anastomoses forms between major vessels.

In some instances the new branches protect the heart after complete obstruction, either gradual or abrupt, so that gross infarction does not occur.

Pericardial adhesions near or over the occluded artery are not traversed by the collateral vessels.

* The experimental production of intercoronary arterial anastomoses and their functional significance. Circulation 1:10-27, 1950.

Hemorrhage of the Nose and Throat

D. H. ANTHONY, M.D.*
Memphis

To reduce fear, discomfort, and dangerous complications of operative bleeding from the nose and throat, prevention and treatment should be planned well in advance.

Before operation, D. H. Anthony, M.D., investigates the possibility of hemophilia. If a male patient has had no wounds, tooth extraction, or other specific test, the physician should inquire about abnormal bleeding in male relatives on both sides of the family.

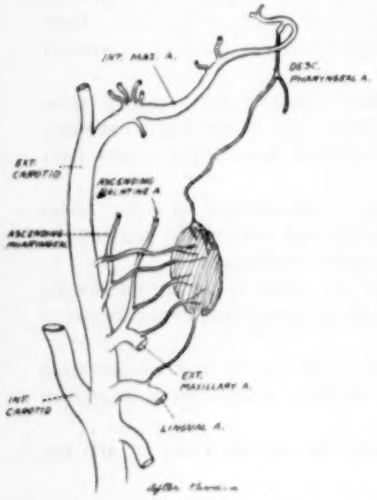
The blood count should be careful and complete, and coagulation and bleeding times determined. Upper respiratory tract infection aggravates blood loss is sufficient reason to postpone surgery.

When excessive bleeding is anticipated, blood should be typed before operation and whole blood obtained. Plasma should be available at all times. The surgeon should discuss the matter with the patient and his family and explain that preparations have been made to anticipate hemorrhagic emergency.

Operative blood loss is reduced by adequate sedation. With the patient fully relaxed, less anesthesia is required and the physician's control improved. If the anesthetist is competent and drugs well selected, bleeding points are quickly found and ligated. Teamwork is better when an assistant trained for the particular type of operation is employed.

For control of local hemorrhage, small arteries are ligated in preference to carotid vessels. Menacyl may be substituted for aspirin after tonsillectomy. Unexpected bleeding in hospital or home is checked by the methods outlined.

SOURCES OF BLOOD SUPPLY



1. MEDICAL TREATMENT, usually satisfactory

Nasal packing

1] Absorbable gauze or cotton, oxidized cellulose; very useful
2] Cotton for emergency; remove in two to five days
3] Gauze soaked with petrolatum, most often used

* Medical and surgical treatment of hemorrhage of the nose and throat. Am. Acad. Ophth. & Otolaryng. Course No. 305, 1949.

4] Simpson splints for bleeding fractured septum
5] Salt pork for recurrent superficial bleeding
6] Stevens water or air balloon, breathing tube optional
7] Household sponge

Liberal protein diet
Vitamins, occasionally indicated
Pituitrin S, effective but dangerous, 3% mortality after age of fifty

II. SURGICAL TREATMENT, good

Cautery
1] Chemical type often necessary
  a] Silver nitrate stick, medium
  b] Saturated solution of trichloracetic acid, superficial
  c] Chromic acid bead, dangerous, deep
2] Actual electric cautery, not as good as high frequency
3] Electric coagulation, high frequency, excellent and often indicated; may be used with Anthony-Fisher suction tip

Postnasal air balloon, Anthony-Fisher self-retaining type with hemostatic bladder catheter

Arterial ligation
1] External carotid, safe and effective
2] Internal carotid, too risky unless directly involved
3] Common carotid, too risky unless directly involved
4] Internal maxillary, rarely indicated
5] Anterior and posterior ethmoid, deserves wider use
6] Superior labial, need is rare
7] Descending palatine, rarely indicated
8] Incisors, sometimes indicated
9] For vessels in throat or nose: Cushing's silver clip
10] For vessels in tonsil fossa: hot moist pressure sponges, very effective; Coakley's slip-knot tie, figure-eight pressure suture.

Hemorrhagic shock is always treated by rest, heat, and elevation of the foot of the bed. Fear and restlessness are reduced by prompt sedation. Whole blood or plasma is given in sufficient amounts and, in emergency, 5% glucose in water.

Probe for Urethral Stricture in Women

LAWRENCE P. THACKSTON, M.D., AND NEIL C. PRICE, M.D.*

CONSTRICTION of the female urethra is quickly shown by a short staff bearing 4 suitably spaced bulbs of sizes 22, 24, 26, and 28 F. This small, easily sterilized instrument (see illustration) has been used for several months at the Urological Institute, Orangeburg, S.C., by Lawrence P. Thackston, M.D., and Neil C. Price, M.D., and has replaced the 4 or 5 male sounds formerly necessary in each instance. Stenosis is generally relieved by simple meatotomy with McDonald's technic.

* A urethral stricture detector for use in the female. J. Urol. 62:900, 1949.

Unilateral Renal Cysts

NATHANIEL KUTZMAN, M.D., AND HANS R. SAUER, M.D.*
University of Buffalo, N.Y.

THE outstanding problem of cystic disease in one kidney is diagnosis. Symptoms may involve chiefly gastrointestinal or other unrelated organs and often resemble those of cancer.

Diagnostic aspiration of cyst contents is dangerous and should not be attempted. When radiography and thorough urologic survey were inconclusive, Nathaniel Kutzman, M.D., and the late Hans R. Sauer, M.D., performed an exploratory operation. Most cysts can be removed without nephrectomy.

Once considered rare, unilateral involvement is now recognized more often.

Simple renal cysts, the most common form, are probably caused by combinations of several factors, some possibly congenital. Many lesions appear in midlife, apparently resulting from a circulatory disturbance affecting a segment of kidney. Groups of tubules are obstructed and a cyst is formed by degeneration of anemic renal parenchyma.

The cavity may be multilocular. About two-thirds of simple cysts originate in the lower pole of the kidney and nearly one-fourth in the upper pole. Although size ranges from barely visible to 12-liter capacity, the usual diameter of the cyst is between 8 and 9 cm.

The sac tends to grow away from the organ without much damage to renal parenchyma. If size is confined by surrounding viscera, however, considerable tissue may be destroyed by pressure atrophy. Renal attachments are very firm; thus an effort to loosen membranes may cause uncontrollable hemorrhage.

The cystic wall of fibrous connective tissue may be partly or entirely calcified. Contents are ordinarily clear but, if infected, become turbid and purulent. Bleeding at times results from trauma, proliferative growth of the lining, or degeneration.

Benign tissue branching into the cavity or breaking through the capsule often resembles renal carcinoma. Gathered débris may assume tumor-like hardness and nodularity.

Pyelogenic cysts grow outward from the kidney pelvis. A narrow channel usually remains and fills the interior with urine and renal stones occasionally form. Sometimes the connection is obliterated.

Parapelvic cysts originate in the hilus and threaten to obstruct urinary drainage or blood flow. As the lining deteriorates, the question of benign or malignant growth again arises.

All types of cyst may remain asymptomatic or produce hematuria.

* A consideration of the problems presented by unilateral cystic kidney disease. J. Urol. 63:34-47, 1950.

renal colic, or a heavy dull lumbar ache. With infection the only complaints may be fever, frequency, and dysuria.

Nausea, vomiting, symptoms of obstruction, and change of bowel habit are common, and pressure on the diaphragm causes intermittent dyspnea.

By examination a large or small mass, sometimes with calcific crepitation, is felt, in some though not all cases. Flat films and pyelograms often show the cystic outline or urinary tract deformity.

Doubtful, enlarging, or symptomatic lesions require an operation. Most cysts grow slowly, and with sufficient reason surgery may be delayed for a time, except for parapelvic growths.

A simple cyst should be excised and the defect repaired. In some instances, especially if cavities are numerous, the free wall is removed and the remainder phenolized, then closed by mattress sutures.

A pyelogenic sac is removed with the channel. After parapelvic resection, anatomic relations about the hilum are reconstructed to prevent urinary or circulatory occlusion.

Nephrectomy is done if malignant degeneration is proved or suspected, if too much renal tissue is destroyed, and in some cases when infection is a contraindication to conservative procedure. Simple aspiration of fluid is seldom warranted.

Treatment of Pemphigus Vulgaris

I. FISHER, M.D.*

THE principal aims of pemphigus therapy are to prevent nutritional deficiency, maintain fluid and electrolyte balance, and promote development of immunity.

To increase nitrogen retention, I. Fisher, M.D., of the University of Minnesota, Minneapolis, gives testosterone propionate or methyl testosterone. Dosage may be 25 mg. three times weekly or one to three times a day.

If possible, convalescent serum is obtained from persons recovered from pemphigus. A dose of 40 cc. is injected intramuscularly and the same amount three days later. From 5 to 40 cc. is then administered at three-day intervals in a total dose of 80 to 130 cc., depending on the response and available reserve.

Protein may be supplied parenterally as blood, plasma, or hydrolysate and orally as Dietene, Protenum, or Casec. Supplements of vitamins and crude liver may be given, as well as sodium, potassium, chlorides, and in some cases ascorbic acid and rutin.

To prevent escape of serum into bullae and denuded areas, pressure dressings are applied in the same manner as for extensive burns.

* The treatment of pemphigus vulgaris. Journal-Lancet 50:18-20, 1950.

Hypospray in Dermatology

L. E. Larrick, M.D., and Robert G. Thompson, M.D.*
University of Cincinnati, Ohio

Subcutaneous or intramuscular injections with a jet spray rather than a needle may be used advantageously in the therapy of several skin disorders.

L. E. Larrick, M.D., and Lt. Col. Robert G. Thompson, M.C., A.U.S., find the Hypospray particularly applicable for anesthetizing sites for biopsy or lumbar puncture and for administering drugs parenterally.

The number of spray injections necessary to secure adequate anesthesia for *biopsy* is from one to three, depending on the region of the body. Each injection consists of 0.25 cc. of 2% procaine. The jet of anesthetic does not distort the tissue. The greatest advantage of the method is the willingness of the patient to submit to a biopsy when needle anesthesia is not used.

To remove *plantar warts*, the surface of the verruca is pared to the bleeding point and four Hypospray injections of 0.25 cc. of 2% procaine each are made around the periphery of the lesion. A single injection of 0.25 cc. is placed in the center. The wart may then be curetted out and the base electrodesiccated.

Local jet injections of aqueous calcium penicillin lessen the induration and symptoms and improve the cosmetic appearance in cases of *folliculitis keloidalis* when other therapy is unavailing. From 500,000 to 1,000,000 units of penicillin is injected into the involved area at weekly intervals.

Creeping parasitic eruptions sometimes resist freezing with ethyl chloride and intramuscular Fuadin, but jet injections of 0.25 cc. of Fuadin placed 0.5 cm. ahead of the burrow of the larvae usually check the spread. Occasionally more than one injection is necessary.

Streptomycin can be injected with the Hypospray for the treatment of *folliculitis decalvans*. Each treatment consists of injection of 10 metapules, each containing 100,000 units of streptomycin.

Jet injections of procaine will relieve pain from *postherpetic neuralgia* and itching associated with *lichen simplex chronicus* for short periods of time. From 3 to 6 metapules of 0.25 cc. each are used at each treatment. The solution is injected directly into the plaques once or twice weekly.

Danger of infection is much less with the Hypospray than with a needle and syringe, since only the medicament pierces the skin. Perhaps the principal disadvantage of the method is the frequent necessity of multiple injections for large areas. Also, the instrument cannot be used in body cavities.

The Hypospray is not yet on the market.

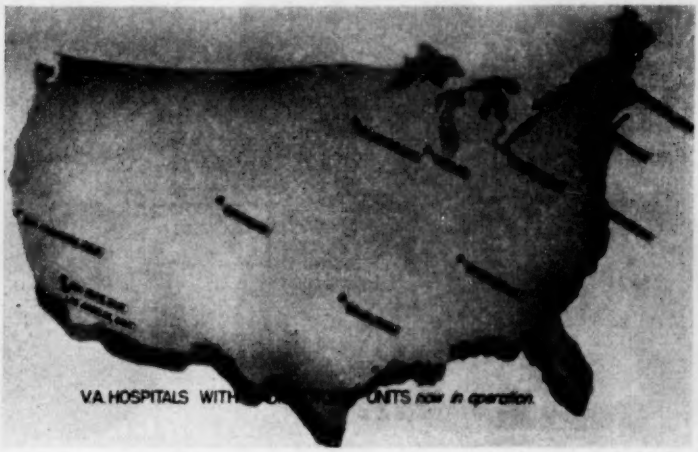
* The Hypospray and its relation to dermatology. J. Invest. Dermat. 13:361-370, 1949.

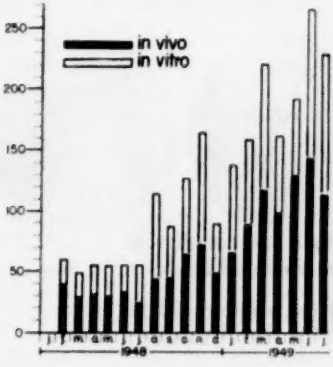
The Diagnostic Role of Radioactive Isotopes

BERNARD ROSWIT, M.D., JOSEPH SORRENTINO, M.D., AND ROSALYN YALOW, Ph.D.

Veterans Administration Hospital, Bronx, N.Y.

"The hospital of the future which intends to provide first rate medical care will make provision for the use of radioisotopes in both diagnostic and therapeutic applications." *George M. Lyon, M.D., Chief, Radioisotope Section, Research and Education Service, Veterans Administration.*





- Twenty-five other Veterans Administration hospitals are soon to be equipped with facilities for medical application of nuclear energy.
- Once established, the radioisotope unit quickly provides an important service to the hospital for diagnosis, therapy, and research.

This exhibit was presented originally at the 21st Annual Graduate Fortnight, New York Academy of Medicine, October 1949, and at the 55th Annual Meeting of the Radiological Society of North America, Cleveland, Ohio, December 1949. Exhibited and reproduced with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for opinions expressed or conclusions drawn by the authors. The authors wish to express their appreciation to the Medical Illustration Department, Veterans Administration Hospital, Bronx, N.Y., for the illustrations and format of the original exhibit.

ORGANIZATION OF A RADIOISOTOPE UNIT

- The Director—for leadership and supervision—a radiologist or medical internist trained in nuclear physics
- The Radioisotope Laboratory for assaying, safe handling, and disposal of radioactive material
- The Radioisotope Team *(below)*

Pathologist

Radiologist

Biochemist

Medical Internist

Hematologist

Radioisotope Physicist

SELECTION OF DIAGNOSTIC RADIOISOTOPES

Criteria

- Nature of the diagnostic problem
- Metabolism of tracer element or compound
- Distribution and localization in body
- Detectability of radiation
- Favorable half-life: long enough for completion of study, short enough for patient's safety
- Availability from piles, cyclotrons, commercial laboratories

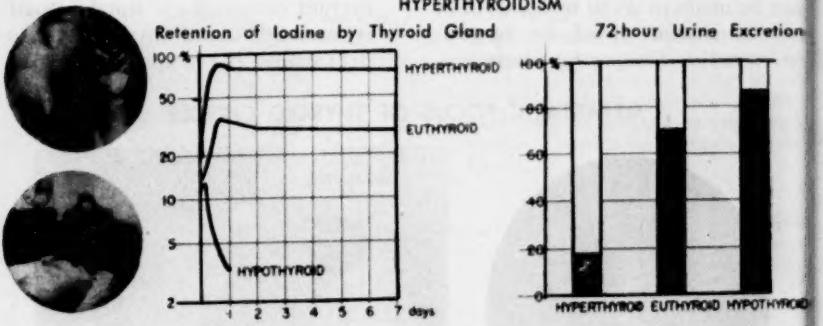
RADIOIODINE, I-131

- Half-life—short (8 days)
- Tracer dose—safe
- Radiations—detectable
- Administration—simple

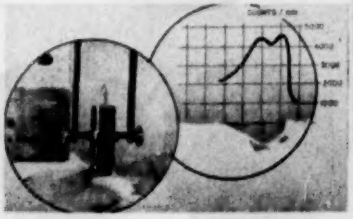
Diagnostic Role in Benign Disease

Diagnosis of thyroid dysfunction—A valuable diagnostic tool for the precise determination of dynamic thyroid function in health and disease.

[1] In hypothyroidism—useful as a diagnostic tool for thyroid dysfunction in infants and young children. [2] In hyperthyroidism—important adjunct to clinical diagnosis; aids in differential diagnosis of pseudo-hyperthyroid conditions, psychoneurosis, cardiac disease, and thyrotoxicosis factitia.

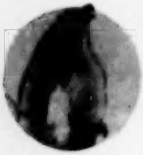


Detection of Aberrant Thyroid Gland, substernal, lateral, and lingual



ABERRANT THYROID TISSUE, substernal

Evaluation of Completeness of Thyroidectomy



Study of Metabolism of Teeth in Health and Disease . . . tissue fluid distribution

DENTIN UPTAKE

1. Normal
2. Worn
3. Caries
4. Erosion

ENAMEL UPTAKE

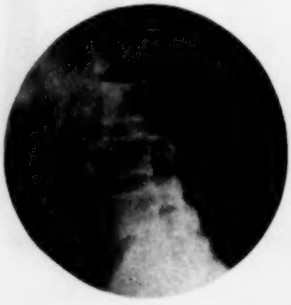
1. Normal
   Surface
   Subsurface
2. Worn
3. Caries

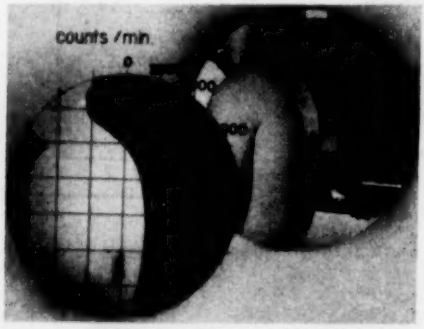
Diagnostic Role in Malignant Disease

Detection of metastatic foci of thyroid cancer. Useful when metastatic cancer cells absorb iodine or can be made to do so by ablation of normal thyroid gland, by surgery, or by radioiodine, or by administration of thyroid stimulating hormone of pituitary.

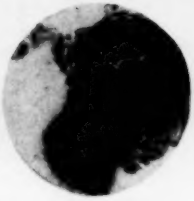
Differential diagnosis—primary thyroid cancer (I-131 uptake usually normal); acute thyroiditis, Riedel's struma (I-131 uptake very low).

METASTATIC FOCUS OF THYROID CANCER



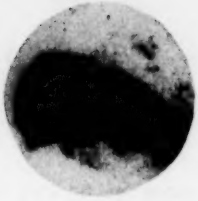


Tissue section 32X

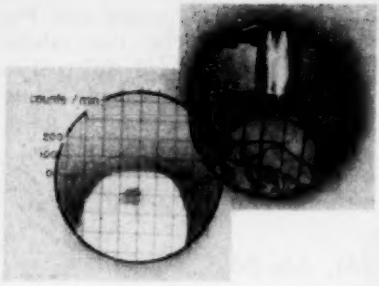


Tissue section and radioautograph superimposed 32X

Radioautograph 32X



Tissue section 200X



Detection and localization of brain tumors before surgery. Diiodofluorescein tagged with I-131

I-131 fixed to dye

Affinity of dye for brain tumors

Detectable radiations

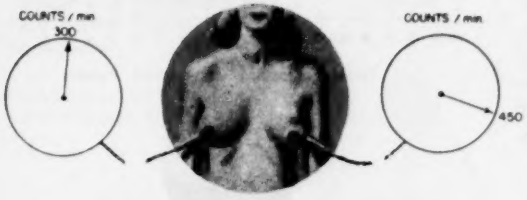
Localization of tumor possible

RADIOPHOSPHORUS, P-32

● Half-life—short (14.3 days) ● Tracer dose—safe ● Administration—simple

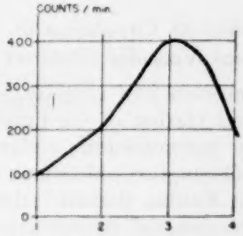
Diagnosis of Malignant Tumors

Of some value. High turnover of phosphorus in cancer cells. P-32 detectable in superficial cancers; accessible to surface or probe counters. Preoperative diagnosis of testicular tumors: surgical biopsy (inadvisable), aspiration biopsy (unreliable).



Our preliminary studies show testicular tumors may be detected by their higher counting rate if tumor is superficial (0.5 cm. below the skin). Inflammatory lesions may show a comparable counting rate.

Preoperative Diagnosis of Breast Cancer



Localization of Brain Tumors During Surgery

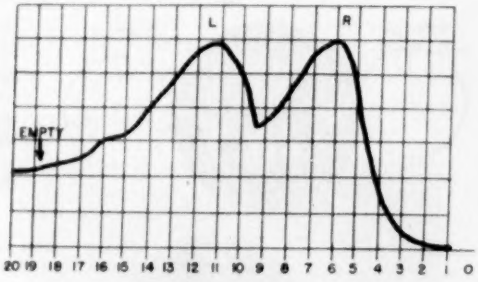
Study of blood volume changes in health and in disease; potentially useful in better understanding, prognosis, evaluation of therapy in polycythemia vera, congestive heart failure, cirrhosis of liver, nephrotic syndrome, chronic cor pumonale, and others.

Technic—RBC tagged with P-32 by incubation. RBC thus labeled (known radioactivity) reinjected into patient, blood samples withdrawn. Blood volume=

$$\frac{\text{injected radioactivity}}{\text{withdrawn radioactivity per cc.}}$$

RADIOSODIUM, Na-24

- Half-life—14.8 hours
- Rapid distribution in body fluids
- Radiations detectable



Radiocardiogram of Normal Patient

RADIOCARDIOGRAPHY

Potentially useful for circulation time, congenital heart disease, and others

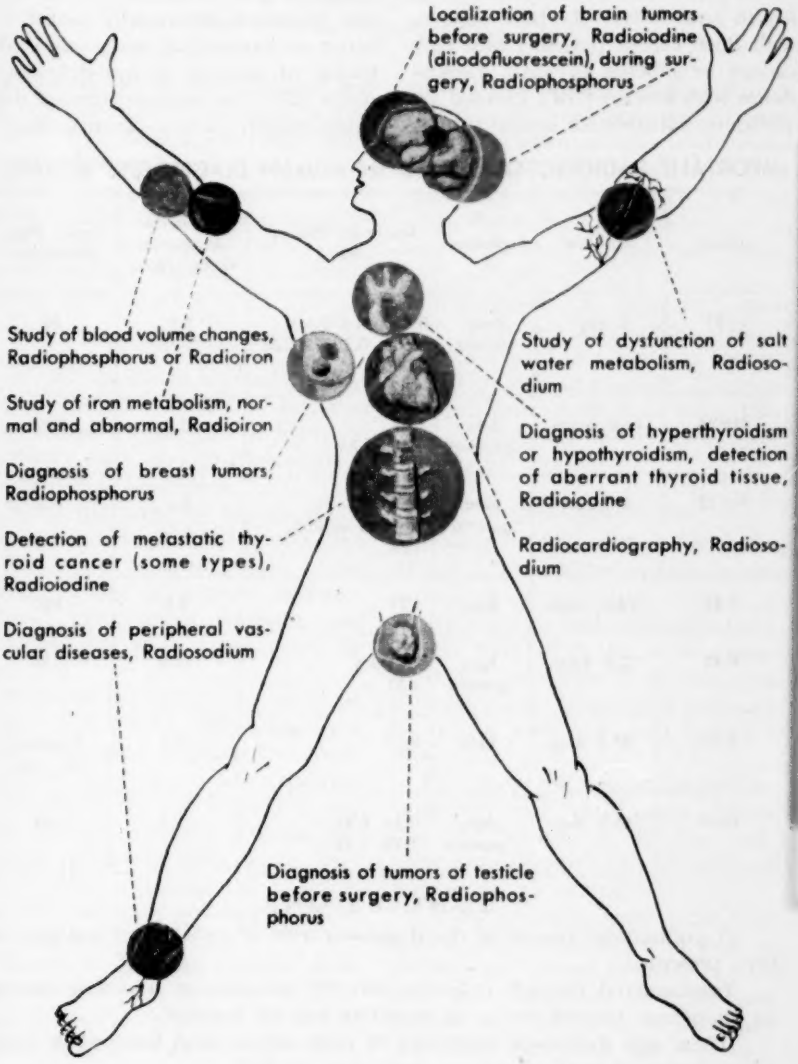
Evaluation of Circulation in Peripheral Vascular Diseases

[1] Competency of primary and collateral circulation of the limbs—frozen feet, arteriosclerotic endarteritis, thromboangiitis obliterans, arteriovenous fistulas, diabetic sclerosis, hypertension; [2] determination of amputation site; [3] evaluation of therapeutic agents.

Changes in Salt-Water Metabolism in Health and Disease

Potentially useful in better understanding of mechanisms, prognosis, evaluation of therapy in congestive heart failure, Addison's disease, renal disorders, hypertension, and others. Na-22 half-life—3 years; rapid distribution in body fluids; radiation detectable.

RADIOISOTOPES OF SOME VALUE AS NEW DIAGNOSTIC TOOLS IN MEDICINE



RADIOIRON, Fe-59

- Half-life—46.3 days
- Labels RBC
- Label remains fixed
- Radiations detectable

Study of blood volume changes in health and disease—Technic same as with P-32, except patient's own cells cannot be labeled in vitro. Employ donor with labeled RBC. Limited application, valuable for special studies.

Studies of iron metabolism, normal and abnormal—Potentially useful in better understanding, prognosis, evaluation of therapy in iron-deficiency states; all of the anemias; chronic diseases; exogenous hemachromatosis.

IMPORTANT RADIOISOTOPES USED IN HUMAN DIAGNOSTIC STUDIES

Isotope	*Half-life*	*Radiation*	*Maximum Energy Mev.*	*Maximum Range in Water (mm.)*	*Tracer Dose Microcuries*
I-131	8 days	Beta gamma	0.315 and 0.600 0.638, 0.363, 0.283 0.080	2.2	50
Na-24	14.8 hours	Beta gamma	1.39 1.38, 2.76	6.4	100
Na-22	3 years	Beta gamma	0.59 1.3 and annihil. rad.	2.1	100
P-32	14.3 days	Beta	1.71	8.0	150
K-42	12.4 hours	Beta gamma	2.0, 3.5 1.51	19.0	130
S-35	87.1 days	Beta	0.17	0.2	Depends on use
Fe-59	46.3 days	Beta gamma	0.26, 0.46 1.10, 1.30	1.5	40

CONCLUSIONS

A preliminary review of the diagnostic role of radioactive isotopes has been presented.

Fundamental research indicates that the radioisotope unit may become an important integral service in an active general hospital.

These new diagnostic tools may be expected to contribute much to the advancement of medical science, basic and applied.

Respiratory Infections of the Newborn

H. Everley Jones, M.D.*
Royal Hospital, Wolverhamptom, England

Organisms of low virulence may cause violent reactions in newborn infants since the immature reticuloendothelial system produces few antibodies. Anoxia, atelectasis, lack of cough reflex, irregular respiration, and narrow choanas may make therapy difficult, H. Everley Jones, M.D., reports.

COMMON COLD

In the newborn a common cold is usually not acute, but infection may spread to the ears or lower respiratory tract, and gastroenteritis is a possible development.

Nasal discharge is usually slight. Passages become blocked readily, and cyanosis and vomiting may occur. Fever, if any, is greatest at onset. Throat involvement is slight, and coughing and sneezing often are absent.

Diagnosis—Symptoms are easily interpreted as due to feeding disorders. With congenital syphilis, the mucopurulent discharge is more profuse than with a cold and frequently contains blood. Gasping respirations, mucous discharge from birth, and obstruction to passage of a probe indicate congenital obstruction of the air passages.

Treatment—Therapy includes clearing the nasal passages and instillation of 0.5% ephedrine in saline before feeding for two or three days every three hours. Oral penicillin or sulfonamide is administered to weak babies or when secretions are purulent. Fluid intake is augmented by quantities of boiled water. The patient should be turned from side to side occasionally to prevent pulmonary collapse.

Myringotomy is imperative when the tympanic membranes remain thickened and gray and the infant's condition fails to improve. If meningeal reaction occurs with otitis, lumbar puncture is essential to avoid meningitis.

BRONCHOPNEUMONIA

During the first week of life, causal factors of bronchopneumonia include aspiration of amniotic, vaginal, or gastric contents and atelectasis. Pneumonia resembling the adult disease or caused by metastatic deposits from a blood stream infection is more apt to appear when the child is over a week old.

The most common organism encountered with pneumonia during the first month is *Bacillus coli*. Others are *Streptococcus viridans* and *Staphylococcus aureus*.

Coryza symptoms may occur with bronchopneumonia but with little or no fever and cough. Cyanosis is common and breathing is rapid and shallow, with retraction of the lower ribs and dilation of the alae nasi.

* Respiratory infections of the newborn. Practitioner 164:28-34, 1950.

Weak babies may become comatose. Diarrhea and vomiting falsely direct attention from the chest. Crepitations are difficult to elicit and consolidation is extensive before dullness to percussion is perceived.

Atelectasis may confuse roentgen films, but small, scattered opacities occur near the hila and at the bases. Leukocytosis occurs with polymorphonuclear increase, although the white count may not increase in some infants. Blood culture is often positive.

Staph. aureus is common in the first year and may be primary from an upper respiratory infection or secondary from staphylococcal sepsis elsewhere. Hemorrhagic consolidation breaks down into abscesses, often in the lower lobes near the pleura, and ruptures into the pleural cavity, with frequent empyema.

Symptoms of virus pneumonia are cough, dyspnea, and cyanosis. Inclusion bodies may be found in pharyngeal mucosa smears of both mother and infant. Roentgen examination will frequently reveal pulmonary infiltration.

Congenital atresia of the esophagus, diaphragmatic hernia, and massive suprarenal hemorrhage may be misdiagnosed as pneumonia.

Patients should be kept in a room at 65° F., with hot-water bottles to maintain body warmth. Clothing should not restrict respiratory movements. The head is slightly elevated and oxygen administered at a rate of 3 to 4 liters a minute.

Oral or parenteral penicillin is given in doses of 20,000 units every three hours or 30,000 units every four hours before feeding, with sulfamezathine at a rate of 0.25 gm. every four hours the first two days, then the same amount every six hours for three or four days. Tablets are crushed in water and given by spoon.

If the child is vomiting, sulfonamide may be given intravenously or subcutaneously as 5% sulfadiazine in saline in amounts of 0.15 gm. per kilogram of body weight per twenty-four hours, divided into two equal doses at twelve-hour intervals.

Streptomycin in dosage of 44 mg. per kilogram of body weight may be given to penicillin-sensitive patients per twenty-four hours, or aureomycin orally every six hours in dosage of 25 mg. per kilogram of body weight per twenty-four hours.

CHICKENPOX ITCHING may be relieved with oral administration of antihistamines. Louis B. Silverman, M.D., of Grand Forks Clinic, N.D., has used Pyribenzamine to treat severe itching which could not be relieved with antipruritic lotion, aspirin, or sedation. The incidence of secondary skin infections with chickenpox is also considerably reduced by this drug. The total daily dosage is about 2 mg. per pound of body weight, given in four divided doses. Complete relief is usual after two or three doses. Pyribenzamine citrate is administered as an elixir to young patients; older children are given the drug in 50-mg. tablets.

J. Pediat. 35:442-443, 1949.

Infectious Lymphocytosis

B. K. LEMON, M.D., AND D. H. KAUMP, M.D.*
Providence Hospital and Wayne University, Detroit

EPIDEMIC lymphocytosis should be suspected when a group of small children have persistent head colds and low-grade fever with few other signs and symptoms.

The condition is often overlooked or confused with similar disorders of the blood, especially infectious mononucleosis and lymphatic leukemia. A useful criterion employed by B. K. Lemon, M.D., and D. H. Kaump, M.D., is the high percentage of mature normal lymphocytes in bone marrow.

A recent outbreak in a home for children illustrated ascending, descending, and late periods of the disease. Various degrees of absolute leukocytosis and lymphocytosis persisted four to seven weeks in the acute phase and seven to twelve weeks in subsiding and chronic stages.

The first child observed was a two-year-old boy from the home who was hospitalized for a fractured tibia. He had acute upper respiratory infection, and roentgenography showed traces of bronchopneumonia. The leukocyte count was 48,000 with 88% lymphocytes and later rose to 70,400 with 89% lymphocytes.

Examinations were then made of 49 children in the institution. For 17, the leukocyte count was over 15,000, with a surplus of lymphocytes, eosinophils, or both. In 19 cases the white cells numbered less than 15,000 but lymphocyte or eosinophil percentages were high. In each of the other 13, blood was normal.

Nasopharyngeal and other respiratory infections occur in many cases of infectious lymphocytosis at all stages. Evidence of bronchopneumonia is often noted, occasionally gums are reddened or the tongue and buccal mucosa ulcerated, and cervical lymph nodes may be slightly enlarged. Respiratory involvement has no relation to height of the lymphocyte count, however.

Although stage of disease is roughly shown by total and differential white counts, general trends appear only when many cases are surveyed. Blood values do not necessarily divide a single course into three parts.

During the acute stage, leukocytes reach a peak of 45,000 to 100,000 in two or three weeks. The count then fluctuates between 18,000 and 60,000 for a time and subsides to approximately normal values. For the next seven to twelve weeks, the level varies from 8,000 to 16,000.

Up to 94% of all white cells may be lymphocytes. Starting before the leukocyte peak, high levels continue through the subsiding phase and for one to three weeks of the chronic period, then slowly regress. Large mature cells predominate among the lymphocytes when leukocytes are most numerous and after the total

* Infectious lymphocytosis: a report of an epidemic in children. J. Pediat. 36:61-68, 1950.

white count subsides. Eosinophilia, with values of 5 to 20%, is often noted in the final period.

In the bone marrow, lymphocytes frequently comprise 65 to 85% of nucleated cells and are mostly small and mature.

Infectious mononucleosis is distinguished from lymphocytosis by relatively large cervical nodes, white cell count rarely exceeding 20,000, abnormal lymphocytes, and a positive reaction with heterophil antibody.

Lymphatic leukemia is identified by more severe illness, pronounced lymphadenopathy, enlarged spleen, and immature lymphocytes in blood and bone marrow.

Tridione Therapy of Minor Epilepsy

GLANMOR R. DAVIES, M.D., AND
JOHN D. SPILLANE, M.D.*

NOTWITHSTANDING toxic properties, tridione is the most effective agent known for minor epilepsy and is ideal for out patients.

Glanmor R. Davies, M.D., and John D. Spillane, M.D., of United Cardiff Hospitals, Wales, find that tridione is useless for grand mal, whether convulsions are slight or severe, and definitely exacerbates psychomotor seizures.

Minor epilepsy usually begins in childhood and adolescence but after the twentieth year is often accompanied by major attacks, which require additional therapy of another kind.

Minor seizures usually consist of momentary interruption of consciousness with no serious effect, although the disturbance may be prolonged or occur hundreds of times daily and cause extreme disability.

A second type of attack is associated with sudden falls. A third and rare form produces a rapid jerk of one or both arms, sometimes with turning of the head or a grimace.

A capsule containing 0.3 gm. of tridione is generally given three times daily. The total maximum daily amount is 1.8 gm. Doses may be discontinued, then resumed in smaller quantities, and as little as 0.1 gm. per day may be adequate.

Toxic effects include photophobia, skin eruptions, reduced formation of blood cells, and transient nausea, depression, or fatigue. Differential blood counts are done three times a week, and if the number of neutrophils goes below 1,600, treatment should be stopped.

Attacks were entirely or almost prevented by tridione in 27 of 45 cases of minor epilepsy and were much lessened in 13. In 5 instances effects were negligible.

* Tridione therapy in minor epilepsy. Brain 72:140-149. 1949.

Filter Paper Test for Syphilis

RALPH B. HOGAN, M.D., AND SHIRLEY BUSCH, M.D.*
U.S. Public Health Service, Durham, N.C.

THE management of congenital syphilis has been seriously hampered because standard serologic tests require relatively large samples of blood.

Adequate amounts can hardly be drawn from infants without jugular puncture, which is difficult or impossible in small clinics and field surveys.

As a result of this, only 1 in 5 cases of congenital syphilis comes to light before the age of one year, and the majority are not discovered until the elementary or high school period.

A skin prick obtains the few drops needed for the filter paper microscopic test, lately adapted from former methods by Ralph B. Hogan, M.D., and Shirley Busch, M.D. The whole blood is collected and dried on filter paper, extracted, mixed with antigen, and examined microscopically for flocculation.

The procedure is not intended for office use, since as much time and technical skill are employed as for the standard slide tests.

General equipment consists of a Boerner type of rotating machine, humidifier, scissors or knife, hypodermic needles, Eaton and Dikeman filter paper No. 613 cut in strips 3/8 in. wide and 7 in. long, 2 straight dissecting needles, a square-tipped thumb forceps, Luer 1- or 2-cc. syringe, 30-cc. bottles lined with vinylite or tinfoil and glass stoppered, and a specially made pyrex glass plate 3½ by 4 in. containing 9 concave depressions.

Cardiolipin antigen standardized at the Venereal Disease Research Laboratory, Staten Island, N.Y., is employed.

Only from 5 to 10 cc. of emulsion, enough for 250 to 500 serum tests, is made at one time. The antigen is mixed with buffered 1% saline solution prepared as for the VDRL syphilis test.

Blood is extracted from paper with 0.9% saline solution made with distilled water.

Specimens are drawn from a finger, heel, or toe with an automatic lancet or a No. 11 Bard-Parker blade inserted into a cork. One end of the filter paper strip is touched to the blood and moved along to saturate at least 4 in. for the routine test and 5 in. for quantitation.

From the dried strip 3/8-in. squares are cut; 4 pieces are placed in 1 hollow of the glass plate and 1 square in another. To each concavity 0.1 cc. of 0.9% saline solution is added, and the paper is then stirred with the needles.

The plate is covered with the humidifier and rotated at 180 revolutions per minute for half an hour. Liquid is squeezed from the paper

* Filter paper microscopic test for syphilis, or the FPM test. J. Ven. Dis. Inform. 31:37-45. 1950.

with forceps, and a drop of antigen emulsion is added to each one of the samples.

Results are read immediately with the low-power objective at magnification of 100. No clumping or slight roughness is negative, clumps of 5 to 10 antigen particles are weakly positive, and medium or large clumps positive.

A quantitative test is done with paper squares of decreasing size: 3 and 2 pieces, 1, ½, ¼, and so on. To obtain the titer, 4 is divided by the last number of pieces or fraction at which the reaction remains positive. That is, if a weak or strong effect still appears at ½ size piece of paper but not at ¼ size piece the titer is 8.

Penicillin Alone for Neurosyphilis

JOHN H. STOKES, M.D., MORTIMER S. FALK, M.D., AND GEORGE D. GAMMON, M.D.*

ARREST of neurosyphilis in any phase, including the paretic, may be possible with penicillin without other medication. John H. Stokes, M.D., Mortimer S. Falk, M.D., George D. Gammon, M.D., and associates of the University of Pennsylvania, Philadelphia, find that five years after treatment of neurosyphilis with penicillin alone, 22 of 37 surviving patients had spinal fluids that were normal, or approached normality.

A gradient of improvement, once established by penicillin therapy, is apparently maintained and the improvement continues slowly over a period of years without additional treatment. More than one-half of the patients in whom spinal fluids were normal attained the status by the second year.

Best results were noted with tabes and asymptomatic disease, although for more than half of the patients with paresis serum reactions became negative. With meningovascular involvement improvement was slightly less satisfactory.

Repeated courses of penicillin may arrest progressive and relapsing primary optic atrophy in taboparesis. Occasionally tabetic pain is relieved by penicillin.

Total dosage of 9.6 million units seems to be slightly more efficacious than half that amount. Relapse or refractive disease requires larger amounts, in some instances as much as 18 million units. Injections of crystalline penicillin G are made every two hours. Daily injections of 600,000 units of penicillin in oil–beeswax menstruum seem equally effective.

* Effect of five years of penicillin alone on neurosyphilis. Am. J. Syph., Gonor. & Ven. Dis. 33:537-560, 1949.

Diagnosis of Pulmonary Metastases

JEROME L. MARKS, M.D.*
Marquette University, Milwaukee

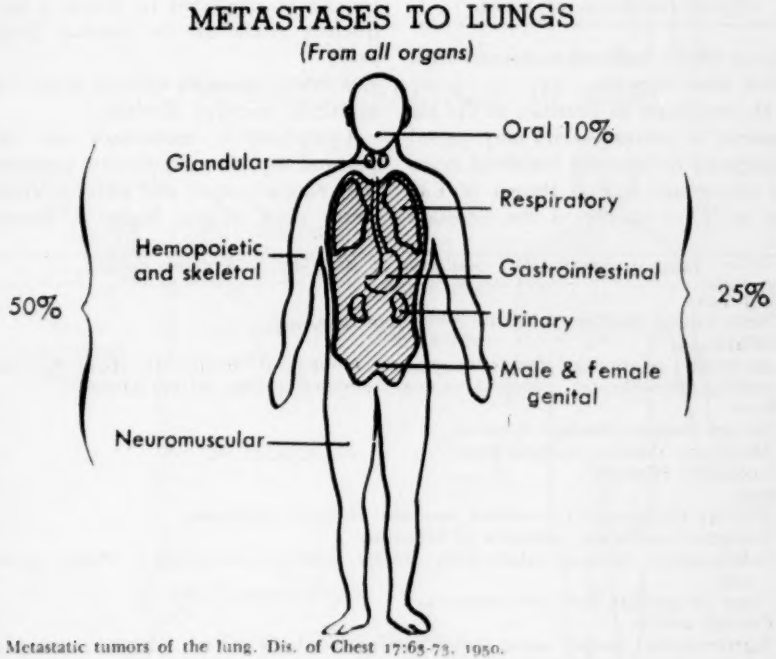
THE chance that a malignant tumor anywhere in the body will metastasize to the lungs is about 1 in 4.

Since pulmonary growths resemble many other conditions, Jerome L. Marks, M.D., employs a methodical and exhaustive diagnostic routine for differentiation.

About half of all primary neuromuscular, skeletal, glandular, and hemopoietic lesions and a smaller number of tumors in other parts will reach the lungs. Proportions are shown in Figure 1.

The principal avenues of transmission in pulmonary metastases are three: [1] vascular circulation, [2] lymphatics, and [3] membranous surfaces (Table 1).

Sarcomas and cancers of the kidney spread chiefly by way of the veins. Emboli may pass to the right side of the heart, pulmonary arteries, and



* Metastatic tumors of the lung. Dis. of Chest 17:65-73, 1950.

lungs, destroy pulmonary veins, then invade the left side of the heart and the systemic circulation.

By an interesting phenomenon lately discovered, blood-borne cancer may scatter through the body without entering the lungs. The by-pass is the vertebral venous plexus, which has no valves and communicates with other main systems.

TABLE 1. AVENUES OF METASTASES

Circulation
General venous system
Systemic—bones, kidneys, etc.
Portal—stomach, colon, etc.
Vertebral vein plexus
Prostate, etc.
Lymphatics (breast, carcinoma of stomach)
Thoracic duct, cisterna chyli
Right lymphatic duct
Membranous surfaces
Peritoneum, etc.—ovarian carcinoma
Organs—carcinoma of bladder

How changes in pressure in the abdominal or pleural cavity may spread malignant cells to the vertebral veins by retrograde flow is shown in Figure 2. Thus cancer of the prostate sometimes appears in the pelvis and femur, or a primary lung tumor near the posterior bronchial vein metastasizes to the brain but not to pulmonary tissue.

Tumor cells reaching the lungs through the venous circulation are filtered out by the intervening capillary network.

Resultant solitary or multiple nodular growths seen on roentgenograms vary in size from miliary deposits to the huge cannon-ball type.

Hardest to define radiologically is the single nodule, which may imitate such diverse conditions as a nipple shadow and segmental pneumonia. Factors to be considered are listed in Table 2. However, the roentgenologist need not despair. The routine procedure suggested in Table 3 frequently leads to the correct diagnosis.

Table 4 presents various causes of multiple nodular shadows.

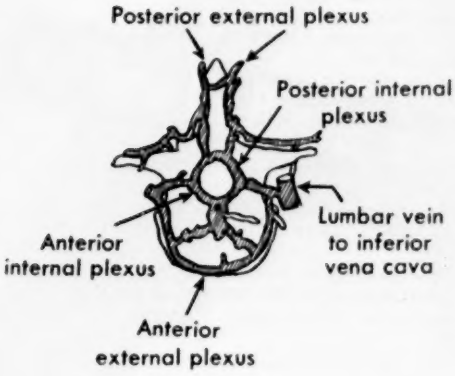
Lymphangitic metastases are explained by the circulatory pattern. The thoracic duct and cisterna chyli drain most of the body, as shown

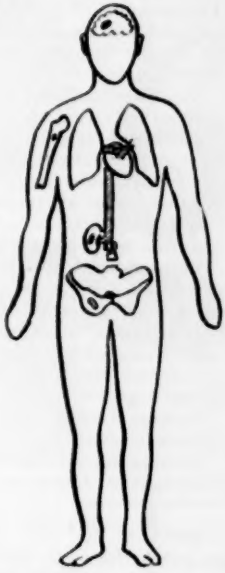
TABLE 2. DIFFERENTIAL DIAGNOSIS OF SOLITARY PULMONARY NODULE

Chest wall
Nevi, nipple shadow, or rib or nerve root neoplasm
Mediastinum
Dermoids, teratomas, thymic neoplasms, esophageal diverticula, diaphragmatic hernia, neurofibroma, ganglioneuroma, dumbbell lipoma of pericardium
Pleura
Benign tumors (fibroma, lipoma)
Malignant tumors (fibrosarcoma)
Loculated effusions
Lungs
Primary malignancy (carcinoma, sarcoma, chorio-epithelioma)
Benign (chondroma, adenoma of bronchus)
Inflammatory (nodular tuberculosis, abscess, segmental pneumonia, mycotic, gumma)
Cysts (congenital fluid, echinococcus)
Foreign bodies
Interbronchial lymph nodes (tuberculosis, Hodgkin's disease, lymphosarcoma)

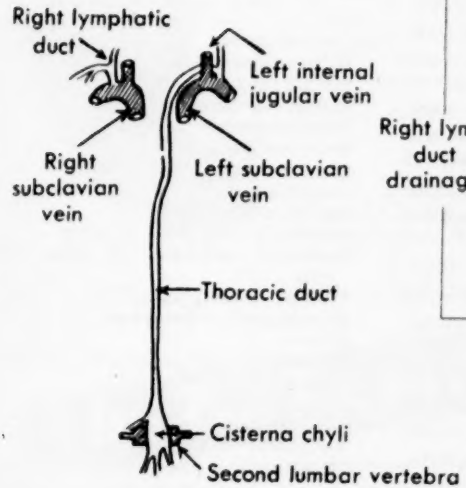
HEMATOGENOUS METASTASES

Vertebral Vein Plexus





LYMPHATIC DRAINAGE IN MAN



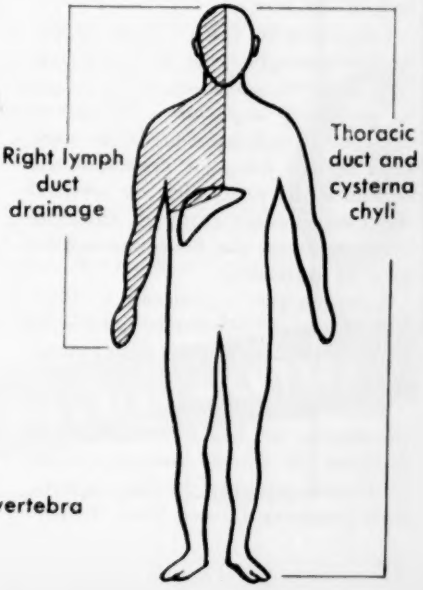


TABLE 3. PROCEDURE FOR DIAGNOSIS OF SOLITARY NODULAR SHADOW

1] *Examination of patient*
Clinical survey (rectum, prostate, temperature, blood count, etc.). Exclude nevi, nipple shadows, etc.
2] *Stereoscopic roentgenograms*
Exclude chest wall and pleural lesions.
3] *Lateral and oblique roentgenograms*
Determine position of lesions (anterior—dermoids, thymus, etc.,) posterior—ganglioneuromas, neurofibromas, etc.
4] *Anteroposterior Bucky chest films and tomographs*
Calcification—dermoids, nodular tuberculosis.
Cyst wall—echinococcus disease, congenital cysts.
5] *Routine bone films*
Lateral skull, ribs, dorsolumbar spine, pelvis, humeri, femurs.
Exclude osseous metastasis.
6] *Esophagram and complete gastrointestinal and gallbladder studies*
Diverticula, diaphragmatic hernia, primary carcinoma.
7] *Sputa and gastric specimens*
Tuberculosis, mycoses, bacterial pathogens, tumor cells.
8] *Bronchoscopic examination* (with aspiration for smear and culture)
Foreign bodies, primary neoplasms, inflammatory lesions.
9] *Systemic tests*
Pyelograms and others.
10] *Exploratory thoracotomy*

in Figure 3, and the right thoracic duct serves the right side of the head, neck, and thorax, right arm and lung, right heart, and convex surface of the liver.

Lymph-borne cancer may appear in roentgenograms as diffuse string-like shadows, radiating from hilum to periphery and more obvious in the central and basal areas. In some cases matted irregular masses or numerous miliary nodules are seen. If the cancer arises from an intrapulmonary tumor, the lymphatic spread may be unilateral.

Lymphangitic carcinoma is differentiated from pulmonary congestion with edema and fibrosis with emphysema.

Both bronchiectasis and atypical pneumonia are usually recognized by duration of illness, pneumoconiosis by known exposure. Miliary tuberculosis produces fainter hilar shadows than do metastatic nodules and involves the upper parts. With sarcoid, the hilar masses are sharply defined in the roentgenograms.

TABLE 4. DIFFERENTIAL DIAGNOSIS OF MULTIPLE NODULAR SHADOWS

Miliary shadows
- Miliary tuberculosis
- Boeck's sarcoid
- Miliary carcinosis
- Hyphomycetosis
- Bronchiolitis
- Pneumoconiosis
- Congestion

Large nodular shadows
- Metastatic neoplasms of lung
- Metastatic neoplasms of pleura and ribs
- Multiple echinococcus cysts
- Bronchogenic tuberculosis
- Infarcts
- Suppurative and gangrenous bronchopneumonia
- Metastatic lung abscesses
- Coccidioidomycosis
- Tularemia
- Hematogenous pneumonia

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Medical Forum

Discussion of articles published in MODERN MEDICINE *is always welcome. Address all communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Expectant Treatment of Enlarged Prostate*

TO THE EDITORS: I believe the point Mr. T. L. Chapman of Glasgow makes, that prostatic operation can be profitably deferred until real urinary obstruction occurs, is well taken. However, I am sure that all urologists see a large number of cases in which urinary obstructive symptoms develop beyond the age of sixty. The particular series which Mr. Chapman reports showed only 15% of patients falling into this classification because "prostatectomy was finally done in 12 cases for obstruction, and in 1 for severe hemorrhage. Other surgeons operated in 4 instances."

The article also states, "Conditions likely to produce vascular engorgement are scrupulously avoided." I am not too clear in my own mind as to just what these conditions are. However, I am certain that many men would rather be subjected to transurethral prostatic resection to relieve annoying urinary symptoms than to go to the trouble of following a ritual of restriction. While there is a good case for expectant treatment in some instances, I do not think it should be by any means emphasized. The percentage of cases in which such management might be detrimental, in my opinion, could become considerably greater than the percentage in which such treatment might be of value.

GERSHOM J. THOMPSON, M.D.
Rochester, Minn.

*MODERN MEDICINE, Feb. 1, 1950, p. 70.

Rooming-in Plan for Obstetric Wards*

TO THE EDITORS: Although the lying-in method has been employed over and over again in home deliveries and recently at the Jefferson Medical College Hospital in Philadelphia as described by Dr. Thaddeus L. Montgomery and associates, I do not believe that this method should be employed throughout the obstetric services of all hospitals.

During the war many patients had to be delivered in the home and in makeshift hospitals because of the shortage of facilities. Today we are getting back to normal and improved obstetric methods and care of the newborn.

I do not believe in absolute routine nor am I an advocate of haphazard feeding of newborn infants. Neither do I believe in constant

*MODERN MEDICINE, Apr. 15, 1949, p. 66.

(Continued on page 114)

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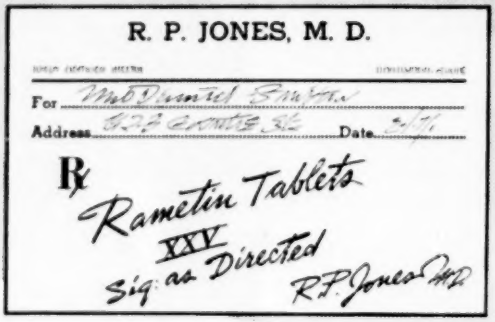

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nervous strain of mothers immediately post partum. Perhaps the lying-in plan as demonstrated by the Obstetric Department of the Jefferson Hospital is good, but since the announcement in the newspapers, I have been questioned by my obstetric patients concerning this plan and whether or not we use it.

Most of my expectant mothers have expressed themselves fully on the subject, and I believe that their comments are worthy of notation:

1] "Why go to the hospital for delivery when I can have my baby by my side at home?"

2] "When the baby is in the same room as the mother, isn't there more chance of infection from visitors?"

3] "Must I awaken frequently because my baby wants some water and it is not feeding time?"

4] "When I have my babies," say some of our annual repeats, "is the only time that I am able to rest, and I have found this the case under the time-proven regime. I do not jump and rest uneasily when my baby is in the nursery as I do when I go home and hear the small infant take an extra deep breath."

5] "If my baby is in my room with me, am I permitted to play with him anytime I want?"

Personally, I feel that this method does little from a psychologic viewpoint, considering that the hospital stay is short as compared with prewar days. Most mothers are quite ready to care for their babies on the fifth postpartum day, and the rest that they have gained in the first four days should be considered.

CHARLES W. OHL, M.D.

Chickasha, Okla.

Safer Gastrectomy*

TO THE EDITORS: Regarding the use of the wax T-tube in gastrojejunoanastomosis following gastrectomy, the results published in the article by Drs. L. A. Alesen, William F. Quinn, and Norman L. Cardey are remarkable.

This gadget may have some value in an occasional case. We have had excellent results using the Levine tube inserted into the stomach the night before surgery. At the time of operation, its tip is inserted into the *proximal* loop of the jejunum to act as a safety valve, thus preventing too much pressure at the stump of the duodenum.

It might be of advantage to have this wax T-tube available for the occasional instance of difficult and unsatisfactory closure of the duodenal stump.

IRWIN SCHULZ, M.D.

Milwaukee

► TO THE EDITORS: With a properly done gastric resection in a well-prepared patient, gastric retention is not a frequent difficulty. We have discontinued the use of tubes through anastomoses with satisfaction. A simple anastomosis with a catgut mucosal suture and an outer layer of interrupted nonabsorbable suture serves admirably.

One should not close his mind to new suggestions, however, and we will await investigation in the animal laboratories in regard to the following:

● Accuracy of the timing of the T-tube's disintegration.

*MODERN MEDICINE, Jan. 15, 1950, p. 81.

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● Influence of any pressure from the tube on the anastomosis or on the bowel or stomach.

JOHN L. ATLEE, JR., M.D.
Lancaster, Pa.

► TO THE EDITORS: The primary problem after gastrectomy is not to devise ingenious methods of preventing the stoma from closing and possible subsequent disruption of the closed duodenal stump, but rather to have the patient in as near an ideal condition as is humanly possible before surgery is actually performed. If such a plan is routinely carried out, the incidence of slow opening of the stoma will be so small as to be inconsequential.

A stoma fails to open for one or a combination of several reasons: lack of adequate decompression of a previously obstructed stomach; poor nutrition, including hypoproteinemia, low vitamin concentration, and electrolytic imbalance; technical errors at time of operation, such as kinking or angulation of an anastomotic limb; and too large or too small a stoma. The duodenal stump may disrupt also from several causes; chief among them is, however, increased pressure from obstruction of the afferent limb. Probably equally as important is interference of the blood supply of the duodenum during the dissection.

A tube of the type advocated by Drs. L. A. Alesen, William F. Quinn, and Norman L. Cardey can only be used in the Billroth II or gastrojejunostomy type of reconstruction. Many surgeons doing a large volume of gastric work in the last few years tend to revert to a modification of the Billroth I because it is more physiologic and has fewer complications than the Billroth II operation with its modifications. Usually no tube of any type is needed after twenty-four hours and early feeding greatly reduces unpleasant sequelae and speeds up postoperative convalescence.

With minute attention to the details of preoperative preparation, individual study of each patient, and carefully selected surgery to fit the patient rather than the surgeon, complications of disruption of the duodenal stump and functional failure of the stoma will be few.

A. H. BELL, M.D.
Oklahoma City

Pin Fixation with Colles' Fracture*

TO THE EDITORS: It is hard to resist comment on the article on pin fixation with Colles' fracture by Drs. Leslie V. and H. Lowry Rush. It seems to me that this is carrying pin fixation a bit too far.

From a fracture experience of about twenty-five years, it is our observation that the least significant aspect of the Colles' fracture problem is the stiffness which follows after the break is healed. Proper reduction and immobilization following the precepts of Bohler seem to give us excellent joint function even without physical therapeutic treatment. As a matter of fact, the writers indicate that even with the intramedullary pin, fixation may not be complete and they suggest immobilization with plaster of Paris splints as an auxiliary measure.

*MODERN MEDICINE, Jan. 15, 1950, p. 88.

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Vitamin A	5000 USP units
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Thiamine	1.0 mg.
Riboflavin	0.8 mg.
Niacinamide	5.0 mg.

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Vitamin A	5000 USP units
Vitamin D	1000 USP units
Ascorbic Acid	50 mg.

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If the immobilization with plaster is accurate and leaves the fingers and metacarpal phalangeal joints free and if the patient is encouraged to use the hands and fingers as well as the elbow and shoulder joints immediately after the plaster is set, very little difficulty ever ensues. To be sure, intra-articular pathology may give some difficulty in the badly comminuted type of fracture but this difficulty certainly is not going to be avoided by the use of a pin which seems only to add an additional hazard.

MAX S. RABINOWITZ, M.D.
Brooklyn

Prevention of Venous Thrombosis*

TO THE EDITORS: Since it is well recognized that muscular contraction is very important in keeping the venous return going and the blood moving in the veins at the proper rate of speed, I would think that the use of some sort of muscular contraction ought to be a very effective way of preventing venous thrombosis. I am inclined to believe that the method of electrical stimulation of leg muscles described by Drs. Vladimir L. Tichy and H. T. Zankel ought to be very effective in the prevention of venous thrombosis and its subsequent complication, embolism.

However, this is purely theoretic reasoning, not based on actual experience.

MORTIMER L. SIEGEL, M.D.
Cleveland Heights, Ohio

*MODERN MEDICINE, Jan. 15, 1950, p. 93.

► TO THE EDITORS: Acute venous thrombosis is an ever present danger as a sequel to a great many surgical operations, and its prevention is of the utmost importance. In addition to thrombophlebitis and phlebothrombosis, either of which may be the manifestation presented, are the additional dangers of pulmonary embolism, cardiac failure, or acute peripheral circulatory failure.

Since the treatment of any of these conditions puts added burdens on patient and staff, to say nothing of the actual jeopardy to the life of the patient, it is of paramount importance to try to prevent such complications. Until recent years the only means at our disposal were frequent changes of position, breathing exercises, and the like. Then came the use of heparin and Dicumarol, each of which has its proponents.

Now we have the recommendations of Drs. Vladimir L. Tichy and H. T. Zankel which seem to be founded on sound logic and are supported by clinical evidence from actual patients. The number of cases is statistically significant. The results are impressive and warrant further trial.

If the use of the electrical current became routine it would require close cooperation between the physical therapy department and the surgical wards. Though the operation of such machines would seem to be time- and personnel-consuming, they would probably require less attention than is needed today when patients are being heparinized.

It is our opinion that this method should get wider application.

MAURICE S. JACOBS, M.D.
Philadelphia

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5. Hygroscopic—excess moisture absorbed, decongestive action.

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Diagnostix

Here are diagnostic challenges presented as they confront the consultant from the first clue to the pathologic report. Diagnosis from the Clue requires unusual acumen and luck; from Part II, perspicacity; from Part III, discernment.

Case MM-163

THE CLUE

ATTENDING M.D: I want you to see a patient in the ward who has had excruciating headaches for twelve years. The headaches now usually occur at night and last from one to six hours. All the headaches have been on the left side of the head with the exception of one, five years ago, in which both sides were involved. The pain is so severe that the man has considered suicide, and on one occasion he was found banging his head against the wall. He says the pain is so acute he can hardly describe it. In the intervals between attacks he has no headache.

VISITING M.D: Is his vision disturbed, and does he have nausea or vomiting during the spells?

ATTENDING M.D: Never during the severe headaches. The intervals of freedom may last for several weeks, but for the past three weeks the attacks have been occurring daily, shortly after midnight.

VISITING M.D: Is there any tenderness of the skin at the time of the headache or afterward, or any trigger zone that will set off the attack?

ATTENDING M.D: No. The pain cannot be reproduced by any particular movement or action, and no trigger zone has been found. Although he has had some attacks in the day, most of them, as I said, occur during sleep. He seems to get relief by sitting up, but by no means complete relief. The skin of the right side of the face is tender after the attack. The right eye waters some during these headaches.

PART II

VISITING M.D: Is any stuffiness of the nostrils or warmness of the face associated with the headaches?

ATTENDING M.D: Yes, both have been noted by the patient in the most recent attacks, as well as some swelling of the temporal vessels and tenderness of the external carotid artery and its branches.

VISITING M.D: What did the laboratory work and the physical and neurologic examinations reveal?

ATTENDING M.D: Blood pressure was normal; physical and neurologic examinations were negative. Electroencephalogram was normal. The pain, which seemed at first to be localized in a small spot, now involves the entire right side of the

NEUTRALIZATION? *Yes*

GASTRIC INTERFERENCE? *No*

AND THE ANTACID WITH THE RIGHT ANSWERS IS *Al-Caroid*

It assures neutralization of excess acidity without retarding gastric digestion – in other words, it is both a gastric antacid and digestant.

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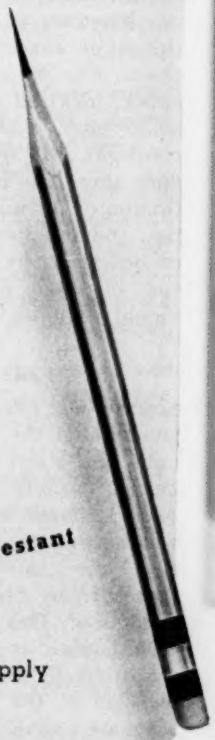

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head, down to the angle of the jaw and high in the temples.

VISITING M.D: Is alcohol a factor?

ATTENDING M.D: Yes, he finds that occasionally alcohol precipitates an attack, but even when he is not drinking alcoholic beverages he may have severe pain. Salicylates give some relief but do not interrupt the severe pain or stop the rhythm of the attacks.

PART III

VISITING M.D: I believe that the patient has histaminic cephalalgia, so-called Horton's headache. We shall give him 1 mg. of histamine to precipitate an attack. *(The injection is given. The patient has a typical attack, identical with the spontaneous ones. Pain is confined to the right side of the head.)* We must give him histamine desensitization. The initial dose is 0.01 mg., and the dosage should be increased gradually to 0.1 mg. by the end of seven days. His attacks should diminish.

PART IV

ATTENDING M.D: *(Ten days later)* The attacks after the first two days became less severe and have disappeared entirely in the last two days. I should anticipate that he will have no more attacks. If he does, they can undoubtedly be controlled by desensitization.

VISITING M.D: This is a typical case of histaminic cephalalgia, or what was originally described as erythromelalgia of the head. The headaches are unilateral, usually persisting for less than an hour, although, as in this case, they may go on for many hours. Attacks may recur with clocklike regularity, even at the same hour, day after day. The symptoms described are typical in every way. Men are afflicted more frequently than women. The headaches are apparently vascular in origin and probably involve the branches of the external and common carotid arteries. In fact, in the early stages of an attack, compression of the common carotid artery and sometimes the temporal artery gives prompt relief. Although some of these patients have typical migraine in childhood or early life, the difference is quite obvious, even to them. Rhythmic, recurring, severe, burning, boring pain in the head, unilateral, of variable duration, with tenderness, swelling of the vessels, increased surface temperature, perspiration, watering and congestion of the eye, and stuffiness of the nostril are quite characteristic and diagnostic of the affliction. This is not the same as temporal arteritis, which may be completely relieved by removal of part of the artery. Pain in many of these instances lasts for weeks or months and may occasionally be alleviated by procaine injection of the stellate ganglion. Tortuous hard vessels may be felt. Injections near temporal arteries on both sides with procaine may relieve the pain. A strange thing about histaminic cephalalgia is that, like the famous line from *Parsifal*, "the weapon that causes the wound now heals it." Or, to be less classical, "the hair of the dog. . . ."

The Whole is Greater than its Parts...

Light, when broken into its components, as when it passes through a prism to evoke a series of colors, is less luminous — generally less useful — than the original white ray.

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Short Reports

AWARDS

American Scientists Honored

The highest award of the Cuban government has been presented to Drs. Tom D. Spies of Northwestern University, Chicago, and Robert R. Williams, New York City. The Orden de Carlos Manuel de Cespedes decoration, for outstanding humanitarian work for the Cuban people, was awarded in recognition of the doctors' contributions in the field of nutrition.

DIAGNOSIS

Elevated Serum Amylase

Free perforation of gastroduodenal lesions may liberate pancreatic amylase into the peritoneal cavity, the subsequent absorption causing a moderate elevation of serum amylase levels. Although a very high level of serum amylase generally indicates acute primary pancreatitis in a patient Dr. James E. Musgrove of Mayo Clinic at Rochester, Minn., has found 3 cases with moderately elevated levels but no pancreatic involvement. All 3 patients did, however, have perforations high in the gastrointestinal tract and severe generalized peritonitis. Secondary involvement of the pancreas by some adjacent pathologic process, acute inflammation of the salivary glands, and renal failure are also known to cause moderate elevations in serum amylase.

Proc. Staff Meet., Mayo Clin. 25:8-10, 1950.

PEDIATRICS

Complications with Meningitis

A collection of subdural fluid with a high protein content, usually encapsulated, may occur in children convalescing from meningitis due to

For safe and effective treatment of

CHRONIC CONSTIPATION

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Pleasant-to-take L. A. Formula is indicated in the treatment and prevention of chronic constipation. Because it supplies bulk and lubrication to the fecal masses by absorbing water, it promotes *normal* evacuation by producing normal peristalsis. Non-habit forming and easy to take, L. A. Formula induces patient acceptance . . . and it is economical too. Prescribe it in your next case of chronic constipation. Send for sample and literature now.

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Hemophilus influenzae. Incidence is greatest in babies under one year of age. Symptoms and prognostic implications are like those with chronic subdural hematoma. The complication has been noted only since the advent of intensive modern antibiotic therapy. Dr. R. James McKay, Jr., of Harvard University, Boston, and associates describe the most common sign as a persistent fever after apparent bacteriologic cure. Early discovery and treatment of the fluid collection by subdural tap may lower the incidence of cerebral damage which often accompanies meningitis caused by *H. influenzae*.

New England J. Med. 242:20-21, 1950.

ANTIBIOTICS

Infantile Gastroenteritis

Chloramphenicol has been used with a high degree of success in the treatment of infantile gastroenteritis. A serologically specific type of *Bacillus coli* which is closely associated with the gastroenteritis usually disappears from the stools within four days after treatment with chloramphenicol is begun, find Dr. K. B. Rogers and associates of University of Birmingham, England. Dosage is 165 mg. per kilogram of body weight per day in 6 or 8 divided doses. A spreading generalized dermatitis which occasionally develops during therapy cannot be attributed directly to the chloramphenicol. No other toxic reactions have been noted. Penicillin, the sulfonamides, and streptomycin have no appreciable effect on infantile gastroenteritis. Even during such treatment for other diseases, the disease sometimes develops.

Brit. M. J. 4643:1501-1504, 1949.

TREATMENT

Muscle-relaxing Agents for Tetanus Patients

Tolserol, a curare-like compound, may be effective, with phenobarbital, in controlling the muscular rigidity and spasms of tetanus. With this combination, little difficulty is experienced in keeping respiratory passages free of secretions. For sedation in 8 tetanus cases, Drs. Harold E. Godman and John Adriani of Charity Hospital of Louisiana, New Orleans, prescribed from 0.5 to 2 gr. of phenobarbital, one to three times daily, and up to 3,500 mg. of Tolserol, usually every four hours. Results were good in the 7 moderately severe cases, but poor in 1 severe case. Unless tetanus involvement is extremely slight, tracheotomy should be performed as early as possible.

J.A.M.A. 141:754-756, 1949.

THERAPY

Animal Charcoal for Alcohol

Symptoms which occur after the ingestion of alcohol and animal charcoal are similar to those attributed to alcohol and antabus. Cardiovascular changes and flushing of the face and neck occur when either agent is followed by alcohol. Dr. G. L. Moench of New York University, New York City, finds that the action of animal charcoal is somewhat slower than that of antabus and does not produce nausea and loss of consciousness. The elements of cost, availability, and greater safety make animal charcoal a good substitute for antabus in the treatment of alcoholic addiction.

New York State J. Med. 50:308, 1950.

65 years of continued research and service to the Medical Profession by the Armour Laboratories have established a profound regard for such outstanding contributions to science as those of Dr. Edwin Joseph Cohn.

Dr. Cohn's revealing research on the complex protein molecules and their interrelation to body functions has been a tremendous aid in the advancement of Endocrinology.

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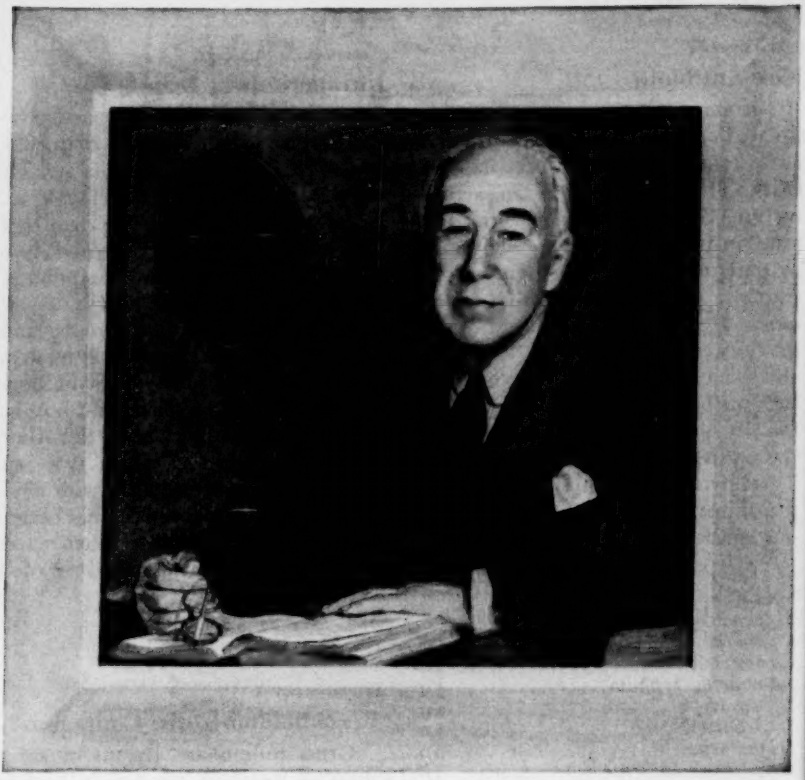

Edwin Joseph Cohn S. B., Ph. D., S. D., M. D. **1892–**

Professor at Harvard University, Dr. Cohn became interested in biological science as a junior at Amherst College. He transferred to the University of Chicago to study physics and chemistry, and to Harvard to specialize in physical chemistry. Convinced, that understanding of the specificity and organization of biological systems could not be achieved by investigating the variables of the environment common to all cells, he turned in 1916 to the study of proteins as the components of cells and body fluids "of the first importance". He sought to acquire insight into their nature from Henderson at Harvard, Osborne at Yale, Sorensen at Copenhagen, Arrhenius at Stockholm, and from Barcroft, Hopkins and W. B. Hardy at Cambridge.

While finishing his studies abroad he was offered the opportunity of developing a research department, at the Harvard Medical School, to investigate problems fundamental to medicine. The Department of Physical Chemistry at the Harvard Medical School is dedicated to the study of proteins. This undeviating investigation upon the specificity of the interactions of diverse complex protein molecules upon their organic structure and functions has resulted in such by-product contributions as: liver extract for pernicious anemia and the fractionation of the blood to yield serum albumins for shock, gamma globulins for measles, and other plasma protein components; in the interest of determining their chemical properties and clinical uses.

PHARMACOLOGY

New Antibiotic

Terramycin, an antibiotic recently isolated from soil, may be active against influenza and rickettsial diseases. The compound is an actinomycete, *Streptomyces rimosus*. Terramycin is effective when given orally or parenterally and, in high concentrations, apparently inhibits growth of the PR8 strain of influenza A virus in chick embryos. Dr. A. C. Finlay and associates of Brooklyn find that the antibiotic has a low degree of toxicity in animals. The table shows the equivalent weights of crystalline Terramycin hydrochloride necessary to inhibit completely growth of various species of microorganisms.

TERRAMYCIN ACTIVITY IN VITRO

Species	μg/ml
Aerobacter aerogenes	1.0
Klebsiella pneumoniae	3.0
Escherichia coli	5.0
Salmonella typhosa	3.0
S. paratyphi	1.0
S. schottmuelleri	1.0
S. pullorum	10.0
Shigella paradysenteriae	1.0
Bacillus subtilis (FDA 219)	3.0
Staphylococcus albus	1.0
S. aureus	1.0
Brucella bronchiseptica	3.0

Science 111:85, 1950.

"Practically the whole ward is on a liquid diet."

EXPERIMENTAL MEDICINE

Intraperitoneal Drip

For administration of postoperative fluids, intraperitoneal drip may prove valuable alone or as a supplement to venoclysis. Dr. Joseph K. Narat and associates of Chicago find that isotonic sodium chloride solution, dextrose, vitamin compounds, distilled water, and penicillin are all absorbed more or less rapidly and are well tolerated when given by drip into the peritoneal cavities of dogs and rabbits. Amino acids and human plasma are not absorbed by this route at all. The intraperitoneal drip apparently does not interfere with healing processes in the abdominal cavity. Absorption is accelerated when water is not drunk during adminstration of the fluids.

Arch. Surg. 60:102-111, 1950.

EPIDEMIOLOGY

Coccidioidomycosis Contagion

Gross pulmonary lesions or other signs of infection develop in healthy guinea pigs housed with others having pulmonary coccidioidomycosis. Apparently, therefore, coccidioidomycosis can be contagious, state Drs. Sol Roy Rosenthal and Francis H. Elmore of the University of Illinois, Chicago. Guinea pigs were infected intratracheally with spherulae-containing sputum or pus. Pulmonary lesions simulating human infection were thereby produced, and the infected animals were then housed with uninfected ones. Within two to six months 10 of the 13 previously healthy guinea pigs showed signs of infection.

Am. Rev. Tuberc. 61:106-114, 1950.

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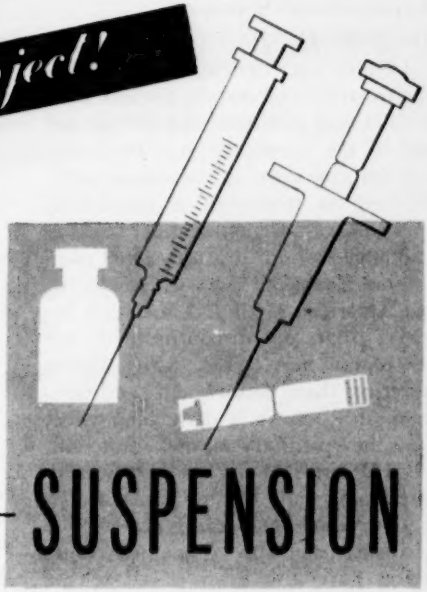

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Each cc. containing 300,000 units of crystalline procaine penicillin G with suitable dispersing and preserving agents.

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ENDOCRINOLOGY

Experimental Status of Hormone Drugs

Despite the benefits obtained in the treatment of certain diseases with ACTH and cortisone, the widespread use of the hormones may be harmful. Improvement is maintained only as long as treatment is continued, and most patients cannot tolerate prolonged administration. The Council on Pharmacy and Chemistry of the American Medical Association believes that on discontinuance the symptoms may recur with greater severity than before. In addition, both drugs have a disturbing effect on the pituitary-adrenal function. ACTH tends to depress the insulin-producing cells of the pancreas, an action which may cause irreversible diabetes mellitus. Some psychotic states have also been traced to the use of ACTH and cortisone. At present, these hormones can most effectively be used as an aid to understanding the mechanism of a disorder.

J.A.M.A. 142:339-341, 1950.

AWARDS

Endocrinology Honor

A medical student at the University of Pennsylvania, Isaac Lewin, received the 1949 Schering Award of $1,000 for the best manuscript on a phase of endocrinology. Other winners were B. Cuthbert Arthur and Ira E. Bailie of the College of Medical Evangelists, Los Angeles; Mortimer Lipsett of the University of Southern California, Los Angeles; and Dr. Lester Rice of Michael Reese Hospital, Chicago.

"Quit complaining. This stretcher ain't that heavy."

ONCOLOGY

Cancer and the Adrenal Cortex

Patients with gastric cancer may also have adrenal cortical dysfunction. Dr. Edward C. Reifenstein, Jr., and associates of the Memorial Hospital Cancer Center, New York City, find that stimulation of the adrenal cortex with 25 mg. of ACTH produces changes in most cancer patients that are not produced by similar stimulation of persons who do not have malignant or adrenal cortical disease. The ratio of urinary uric acid to creatinine and of urinary inorganic phosphorus to creatinine does not increase with stimulation by ACTH in cancer patients. On the other hand, changes in eosinophil level and the potassium to creatinine ratio are the same in both groups. Whether this dysfunction of ACTH response arises from the cancer, the cancer from the dysfunction, or both from some third factor has not yet been established.

Gastroenterology 13:493-500, 1949.

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effective To remove excess body fluid, water-binding sodium must be eliminated.[1,2] This MERCUHYDRIN does. Clinical investigation has shown that "the average total excretion of sodium in 24 hours was increased more than four times by MERCUHYDRIN injections."[3]

well tolerated systemically Both experimental[4] and clinical[5,6] evidence attest to the relative safety of MERCUHYDRIN. Exhaustive renal function tests and electrocardiographic studies have demonstrated that it is notably free from unfavorable clinical effect.[5,6]

high local tolerance MERCUHYDRIN is outstanding for its local tissue tolerance.[7] High local tolerance permits intramuscular administration—with minimal irritation and pain—as often as required for the frequent-dosage schedule of current clinical practice.

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bibliography: (1) Donovan, M. A.: New York State J. Med. *45*:1756, 1945. (2) Reaser, P. B., and Burch, C. E.: Proc. Soc. Exper. Biol. & Med. *63*:543, 1946. (3) Griggs, D. E., and Johns, V. J.: California Med. *69*:133, 1948. (4) Chapman, D. W., and Schaffer, C. F.: Arch. Int. Med. *79*:449, 1947. (5) Modell, W.; Gold, H., and Clarke, D. A.: J. Pharmacol. & Exper. Therap. *84*:284, 1945. (6) Finkelstein, M. B., and Smyth, C. J.: J. Michigan M. Soc. *45*:1618, 1946. (7) Gold, H., and others: Am. J. Med. *3*:665, 1947.

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PEDIATRICS

Hyaluronidase Inhibitor in Rheumatic Fever

Degree and duration of rheumatic fever activity may be indicated by serum concentration of hyaluronidase inhibitor. Elevation is roughly proportional to the clinical severity of the exudative process and is significantly high with acute disease. Among the cases studied by Drs. Robert A. Good and David Glick of the University of Minnesota, Minneapolis, however, patients with convalescent or inactive rheumatic fever had levels even lower than those of healthy children and adults. The possibility exists that the hyaluronidase-inhibiting activity of the serum may be a nonspecific defense reaction figuring in individual susceptibility to rheumatic disease.

J. Infect. Dis. 86:38-45, 1950.

"Well, doctor, I just curled up with a good book, and . . ."

NUTRITION

Vitamin B_{12}b for Anemia

The hemopoietic action of vitamin B_{12}b is satisfactory in patients with acute pernicious anemia. The vitamin is a crystalline fraction of B_{12} concentrate with a somewhat different absorption spectrum. Dr. Tom D. Spies and associates of Northwestern University, Chicago, and the Hillman Hospital, Birmingham, find that the strength and appetite of a patient increase rapidly after a single 10-μg dose of B_{12}b. Activity of this material per unit of weight has not yet been compared with that of vitamin B_{12}.

South. M. J. 43:50-51, 1950.

OBSTETRICS

Pregnancy Test

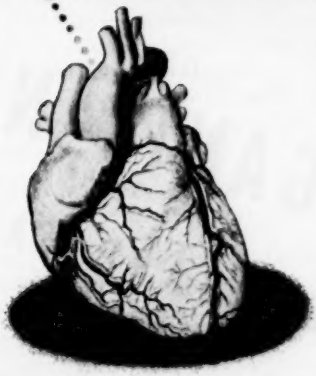
A method has been devised which will not only detect but predict the course of pregnancy. A few drops of urine from a pregnant woman injected under the skin of the tail of an immature white rat will produce redness in the rat's ovaries within twenty-four hours. Dr. Edmond J. Farris of Wistar Institute, Philadelphia, finds that the test is effective as early as the thirty-first day of the menstrual cycle, about two weeks earlier than with other pregnancy tests. A strong red color means a normal pregnancy, while a paler reaction indicates the possibility of spontaneous abortion. Some other conditions, such as ovulation or the menopause, also produce reddening of the rat's ovaries, but the color reaction is much more rapid than with pregnancy, reaching a maximum vividness in two hours.

Fertility & Sterility 1:76-86, 1950.

NOW

In Coronary Arteriosclerosis

AN IMPROVED PROGNOSIS



That the outlook for patients with coronary thrombosis and myocardial infarction can be greatly improved by choline therapy was recently demonstrated in a controlled clinical study.*

The subjects were given choline for periods up to three years. Analysis of the results obtained with the treated and control groups showed that "the subsequent mortality rate of the patients was significantly reduced under choline treatment."

Solution Choline Gluconate-C.S.C. is an effective economical means of instituting choline therapy. Containing 61.7 per cent choline gluconate, it may be given in the dosage of one tablespoonful three times daily, thus providing a substantial therapeutic dose of choline.

Supplied in one pint bottles.

*Morrison, L. M., and Gonzalez, W. F.: Results of Treatment of Coronary Arteriosclerosis with Choline, American Heart Journal *38*:471, Sept., 1949.

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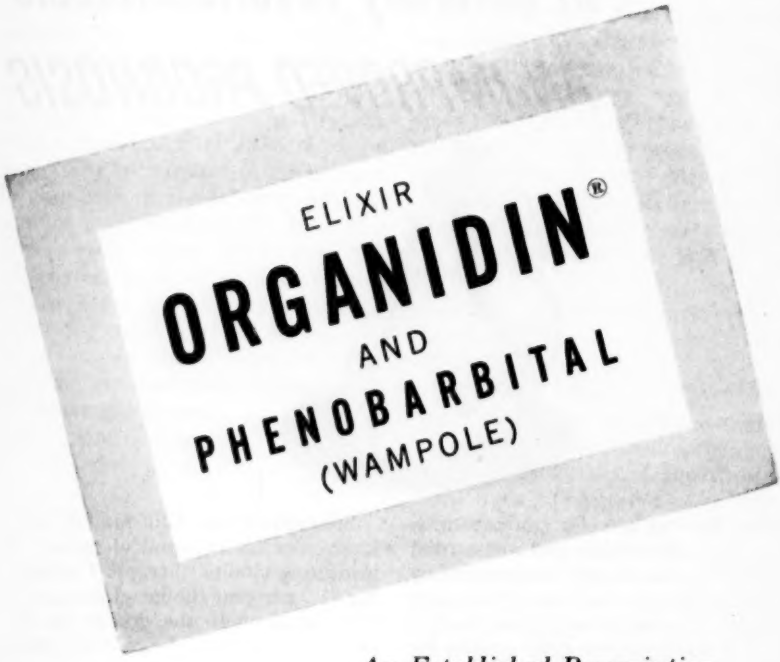
NOW AVAILABLE! A *NEW* WAMPOLE PRODUCT.



An Established Prescription Combination for Treatment of

HYPERTENSION
HYPERTHYROIDISM
ARTERIOSCLEROSIS
ENDOCRINE IMBALANCE

The Wampole Laboratories are indebted to the medical profession for prescribing simple mixtures of *Organidin* and elixir phenobarbital for many years. The taste and other characteristics of these prescriptions invariably favored those of elixir phenobarbital.

In order to satisfy the demand for this combination of *Organidin* and a mild sedative, the Wampole Laboratories have developed Elixir *Organidin* and Phenobarbital. This new product is composed of an elixir of *Organidin*, into which pure phenobarbital is blended to make a stable, exceptionally palatable product that neither tastes nor looks like the standard elixir of phenobarbital. And although its phenobarbital content is relatively small, laboratory tests have shown that the mild sedative action of this new preparation is quicker and lasts longer than that of the standard elixir with the higher content of phenobarbital.

Each fluid dram (approximately one teaspoonful) of Elixir *Organidin* and Phenobarbital contains:

Phenobarbital . . . . . ⅓ grain
(Warning: May be habit-forming)

Organidin . . . . . 10 minims
(Containing ¼ grain of iodine, organically combined by reaction with glycerin)

Alcohol, 7%

Elixir *Organidin* and Phenobarbital is indicated for sedation and control of selected hypertensive, cardiovascular, arteriosclerotic, thyrotoxic, climacteric, rheumatic or other cases where iodine therapy together with the accessory sedative effect of phenobarbital is desired.

Elixir *Organidin and Phenobarbital* (Wampole) is supplied in pint bottles. Samples and literature on request.

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ENDOCRINOLOGY

Cortisone and Granulation Tissue

Action of cortisone on the mesenchymal diseases may be due to inhibition of the reactivity of connecting tissue. Skin wounds were made in the ears of 6 pairs of rabbits, and 1 animal from each pair was treated with cortisone. Dr. Charles Ragan and associates of Columbia University, New York City, found that development of granulation tissue in the wounds of the cortisone-treated animals lagged far behind that of the control animals. Post mortem, the cortisone-treated animals also showed many signs of hyperadrenalism. Few new blood vessels could be seen, and fresh growth of all elements of the connective tissue was greatly depressed.

Proc. Soc. Exper. Biol. & Med. 72:718-721, 1949.

VENEREOLOGY

Oral Penicillin for Gonorrhéa

A single dose of penicillin taken by mouth under supervision of a physician may prove a satisfactory method of treating patients with gonorrhea. Drs. Adolph Jacoby and Arthur H. Ollswang of the Department of Health, New York City, assayed effectiveness of dosages ranging from 100,000 to 600,000 units on 284 patients, many with acute infections. The medication was often administered as a single dose. The smaller amounts failed to cure any of the patients, but the dosages of 400,000 to 600,000 units cured more than 80%.

Am. J. Syph., Gonor. & Ven. Dis. 34:60-61, 1950.

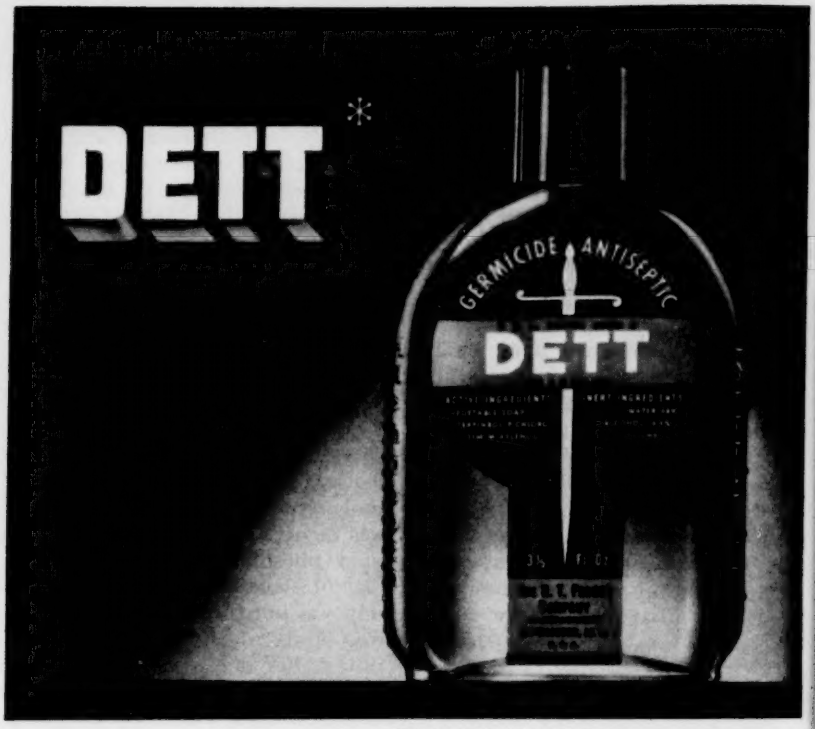
"I've tried everything, so, in desperation, I've come to you, doctor."

ANESTHESIOLOGY

Route of Spinal Anesthesia

The venous system is apparently the most important channel for drainage of anesthetic from the spinal theca. Concentration declines rapidly in the spinal subarachnoid space, rising at the same time in the urine. The blood level remains persistently low. Most of the drug is removed from the body through the urine, the bile being the next most important route, finds Dr. Frank Howarth of Manchester University, England, from a tracer study of radioactive dibromoprocaine hydrochloride, after intrathecal injection in cats. Only the spinal roots show a concentration of the drug above that in the cerebrospinal fluid at the site of the injection, and only in the kidney and liver is the concentration higher than in the circulating blood. Variations in dosage and time of examination do not appear to affect this relationship. DBP enters the spinal cord during anesthesia, but the concentration is probably too small to produce functional cord transection.

Brit. J. Pharm. & Chemotherap. 4:333-347, 1949.



*ALSO KNOWN AS DETTOL

A "new" Antiseptic proved by 20 years performance

New to the medical profession of the United States, Dett, under the name Dettol, is standard equipment for surgeons and hospitals throughout the British Empire. Dett, for obstetrical and surgical use, has been proved since 1929.

Dett, although deadly to germs, is gentle to human tissue. This clean, clear liquid with an agreeable odor is safe, effective, non-irritating and non-staining. Physicians who have used Dettol in other countries will welcome its introduction in the United States under the name of Dett.

For a generous size sample, and literature, write to: The R. T. French Co., Pharmaceutical Department, Rochester 9, New York.

DETT *THE MODERN WEAPON AGAINST INFECTION*

METABOLISM

Human Serum Albumin for Nutrition

A positive nitrogen balance can be maintained postoperatively with intravenous human serum albumin as the sole source of nitrogen. Dr. Archibald G. Fletcher, Jr., and associates of the University of Pennsylvania, Philadelphia, report that 8 patients were kept in positive balance and 3 in equilibrium on a daily intake of 0.2 gm. of nitrogen and 25 calories per kilogram of body weight, despite the fact that these amounts are usually considered inadequate when given orally as whole or hydrolyzed protein or intravenously as hydrolyzed protein. Results suggest that the injected albumin remains for a long period of time in the body fluids and disappears slowly.

Surg., Gynec. & Obst. 90:151-154, 1950.

VENEREOLOGY

Gonorrhea Treatment

Dihydrostreptomycin is apparently as effective in the treatment of gonorrhea as streptomycin. A single injection of 0.2 to 0.4 gm. of the antibiotic cured about 90% of the patients treated by Dr. S. R. Taggart and associates of the District of Columbia Health Department, Washington, D.C. Lesser amounts were unsatisfactory. The percentage of cure is similar to that for an equal amount of streptomycin. Some of the patients complained of slight, transitory pain at the site of injection, but no other local or general reactions appeared.

Am. J. Syph., Gonor. & Ven. Dis. 34:62-63, 1950.

EXPERIMENTAL MEDICINE

Depressant for Cholesterol

Inositol can be used to lower the level of serum cholesterol and lipid phosphorus of patients with hypercholesteremic diabetes. Of 30 diabetic patients treated by Drs. William C. Felch and Louis B. Dotti of St. Luke's Hospital, New York City, more than half had serum cholesterol levels above 300 mg. per cent and none were below 200 mg. per cent. After 3 gm. of inositol was taken daily for eight weeks, the range was lowered to between 189 and 293 mg. per cent. In both the original and the later determinations the ratio of cholesterol esters to total cholesterol was relatively constant. The level of lipid phosphorus tended to follow that of cholesterol, but the relationship was not consistent. Serum levels rose slowly when inositol was discontinued, but even six weeks after the end of the therapy none had reached previous highs. The drug had no apparent effect on the diabetes.

Proc. Soc. Exper. Biol. & Med. 72:376-378, 1949.

"What chart?"

REGURGITATION IN INFANTS

EPIDEMIC VOMITING

EMETROL

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PHOSPHORYLATED CARBOHYDRATE SOLUTION

FEATURES OF EMETROL*

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IMPORTANT:

PEDIATRICS

Visammin for Whooping Cough

Although no cure has yet been discovered for whooping cough, visammin has proved an effective and safe drug in symptomatic treatment of the disease. In the paroxysmal stage, the most commonly used therapies have been sedatives and antispasmodic drugs, but Drs. A. Khalil and A. Safwat of Kasr-el-Aini, Cairo, Egypt, find that the side effects are troublesome and even dangerous, especially in young children when medication must be continued for long periods. With visammin, the paroxysms can be greatly and rapidly reduced without any serious effects to the patient even during prolonged treatment. A daily total of 5 to 7 mg. per kilogram of body weight is given orally in three or four divided doses, usually in a syrup to disguise the bitter taste. Intramuscular administration in children may cause severe paroxysms. Visammin is called Khellin in European literature and has been used as a coronary vasodilator.

Am. J. Dis. Child. 79:42-49, 1950.

VITAL STATISTICS

Death Rate of Doctors

In 1949, the average age at death among physicians was 67.2, slightly below the average for 1948 but above that for 1947. The 3,331 physicians' obituaries published in the *Journal of the American Medical Association* during 1949 show that heart disease was the leading cause of death, with an incidence of 41%. Other major causes were diseases of the nervous system and cancer, each about 12%. The 138 accidental deaths represented a decrease of 20% from 1948.

METABOLISM

Pain and Chemical Changes

Production of pain appears to be associated with local chemical changes within the abnormal tissue foci. Apparently the tissue *p*H may alter toward acidity or alkalinity. Factors such as time of day and food intake that affect the acid-base balance of the body may also influence the intensity of pain. In comparing urine *p*H with the degree of pain felt by patients, Dr. Emanuel Revici and associates of Institute of Applied Biology, Brooklyn, find two distinct pain patterns, one acid and the other alkaline. Administration of alkalinizing agents increases alkaline pain and relieves acid pain while acidifying agents have the opposite effect. The action appears to bear directly on the abnormal foci rather than on structures conducting the pain impulse since both patterns may coexist in the same individual, varying simultaneously but in opposite directions.

Bull. Inst. Applied Biol. 1:21-38, 1949.

foods may look alike...BUT

Here are two tomatoes—same color, same texture, same taste—YET ONE CONTAINS LESS VITAMINS, MINERALS AND TRACE ELEMENTS THAN THE OTHER.

Deficient soils often produce plants which mask their nutritive deficiencies behind a colorful appetizing appearance. Processing, faulty preparation and poor choice of food, also add to the growing lack of minerals, vitamins and trace elements. These nutritive deficiencies pave the way for many degenerative diseases. VI TERRA is the only nutritional supplement which furnishes—in a single capsule—12 important minerals and trace elements and 9 vitamins which assure an adequate supply of minerals, trace elements and vitamins needed by all patients for optimal well-being.

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MINERALS		VITAMINS	
Cobalt (*Cobaltous Sulf*)	0.1 mg.	Vitamin A (*Refined Fish Liver Oil*)	5,000 USP Units
Copper (*Cupric Sulfate*)	1 mg.	Vitamin D (*Irradiated Ergasterol*)	500 USP Units
Boron (*Sodium Metaborate*)	0.2 mg.	Vitamin B_1 (*Thiamine Hydrochloride*)	3 mg.
Iron (*Ferrous Sulfate*)	10 mg.	Vitamin B_2 (*Riboflavin*)	3 mg.
Iodine (*Potassium Iodide*)	0.15 mg.	Vitamin B_6 (*Pyridoxine Hydrochloride*)	0.5 mg.
Calcium (*DiCalcium Phosphate*)	213 mg.	Niacinamide	25 mg.
Manganese (*Manganous Sulf.*)	1 mg.	Vitamin C (*Ascorbic Acid*)	50 mg.
Magnesium (*Magnesium Sulf.*)	6 mg.	Calcium Pantothenate (*Dextro*)	5 mg.
Molybdenum (*Sodium Molybdate*)	0.2 mg.	Mixed Tocopherols Type IV	5 mg.
Phospharus (*DiCalcium Phosphate*)	1.65 mg.		
Potassium (*Potassium Sulf.*)	5 mg.		
Zinc (*Zinc Sulfate*)	1.2 mg.		

J. B. ROERIG AND COMPANY — ETHICAL PHARMACEUTICALS — 536 Lake Shore Drive, Chicago 11, Ill.

OBSTETRICS

Spinal Anesthesia for Eclampsia and Preeclampsia

Continuous spinal injection of Metycaine may be efficacious in cases of severe eclampsia or preeclampsia. Dr. P. J. McElrath and associates of the Medical College of Virginia Hospitals, Richmond, find that after the initial dose of 0.5 cc. of 1.5% Metycaine solution, the blood pressure drops. The required level of anesthesia can be maintained, for days if necessary, with subsequent injections of the same dosage at fifteen- or thirty-minute intervals. Convulsions usually are adequately controlled and patients are conscious and easy to handle. Urine output is increased. The anesthesia does not appear to interfere with labor. No maternal fatalities occurred in 24 cases and the corrected fetal mortality was about 8%.

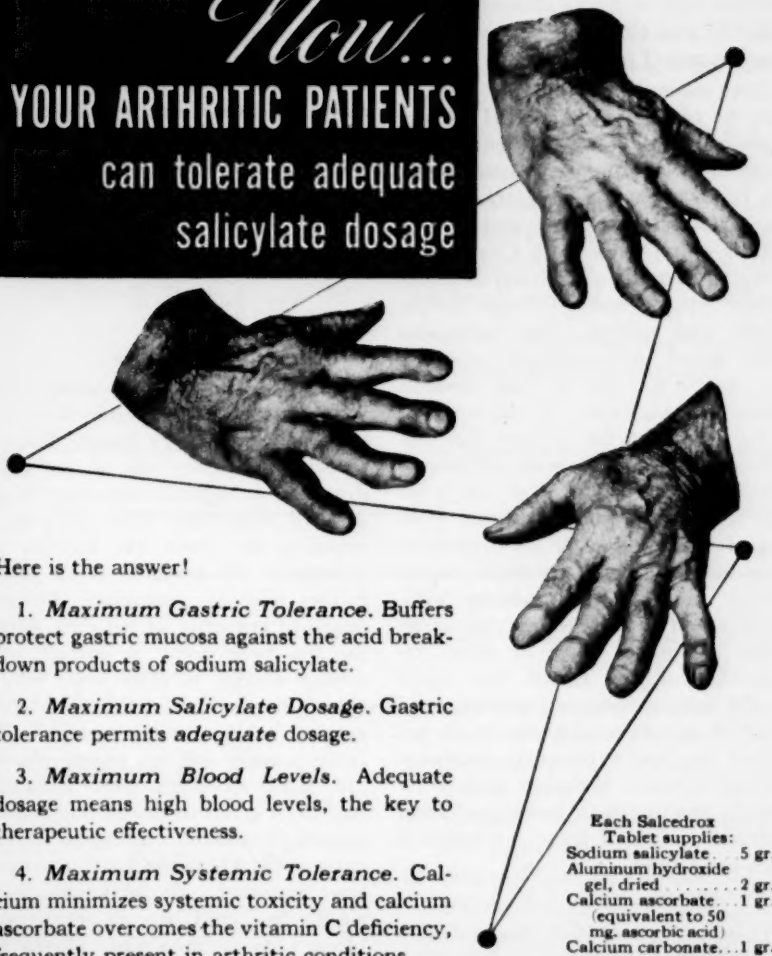
Am. J. Obst. & Gynec. 58:1084-1092, 1949.

PUBLIC HEALTH

Health Information Foundation

An organization has been established by the pharmaceutical, drug, and allied industries to improve the nation's health facilities without lobbying or propaganda activities. The president of the Health Information Foundation is a retired naval officer, Adm. William H. P. Blandy. Named as other officers are John G. Searle, chairman of the board, and Dr. Frederick J. Cullen of Washington, D. C., secretary.

Now...
YOUR ARTHRITIC PATIENTS
can tolerate adequate salicylate dosage



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2. ***Maximum Salicylate Dosage.*** Gastric tolerance permits ***adequate*** dosage.

3. ***Maximum Blood Levels.*** Adequate dosage means high blood levels, the key to therapeutic effectiveness.

4. ***Maximum Systemic Tolerance.*** Calcium minimizes systemic toxicity and calcium ascorbate overcomes the vitamin C deficiency, frequently present in arthritic conditions.

Salcedrox is indicated in arthritis and allied rheumatic states. Available on prescription through all pharmacies. Write for sample and literature.

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Each Salcedrox Tablet supplies:

Sodium salicylate	5 gr.
Aluminum hydroxide gel, dried	2 gr.
Calcium ascorbate (equivalent to 50 mg. ascorbic acid)	1 gr.
Calcium carbonate	1 gr.

SEMCO
Salcedrox Tablets

ONCOLOGY

ACTH and Cortisone for Tumor Treatment

Regression of lymphoid tumors may be induced with ACTH or cortisone. In all of 6 patients with lymphomatous tumors treated by Dr. O. H. Pearson and associates of the Sloan-Kettering Institute and Memorial Hospital, New York City, either drug produced a considerable decrease in the size of large lymph nodes and spleens. The hormones were given in total daily amounts of 100 to 200 mg. in four divided doses for eighteen to thirty days. The course of the disease was not affected in 2 patients with carcinoma. No regrowth was evident for 2 of the improved patients within a period of ten weeks after the treatment was discontinued. Lymphatic tissues of the other 4 began to change within a period of a few days to six weeks after treatment. In 2 of these, involution of the tumor was again noted with further administration of ACTH or cortisone. None of the patients has had a complete remission of the disease. Whether such a result is possible with more prolonged administration of these hormones is not yet known.

Cancer 2:943-945, 1949.

INDUSTRIAL HEALTH

Cleaning Fluid Hazard

Improper use of noninflammable cleaning fluids may result in severe poisoning. Nearly all these fluids contain carbon tetrachloride. A single teaspoonful of any of the tetrachloride preparations taken internally or the fumes from one cup may cause death. Repeated contact of the skin with the liquid may also produce a toxic reaction. Dr. W. D. Norwood and associates of Richland, Wash., report 51 cases of exposure to carbon tetrachloride resulting from improper working conditions. Persons who have consumed alcohol are especially susceptible to poisoning.

THERAPY

Use of Lithium Salts

Many of the symptoms which have been attributed to lithium intoxication may have other causes. Sodium chloride deficiency, use of mercurial diuretics, or digitalization may be associated with these same symptoms, explains Dr. John H. Talbott of University of Buffalo, N.Y. Many factors may be responsible for the death of critically ill patients. Lithium has been given to animals and human beings without toxic effects when the serum lithium levels remained below 1 milliequivalent. Patients usually did not report untoward reactions until after publicity had been given to deaths supposedly caused by lithium. In most of the cases in which severe toxic reactions were reported, salt intake was held rigidly low, and lithium intake was often 5 to 8 times the amount required to make food palatable. Lithium does not appear to replace sodium in the blood. Healthy persons show no decrease in serum sodium while taking lithium, and the decrease in serum sodium noted in hospital patients is much greater than the concentration of lithium.

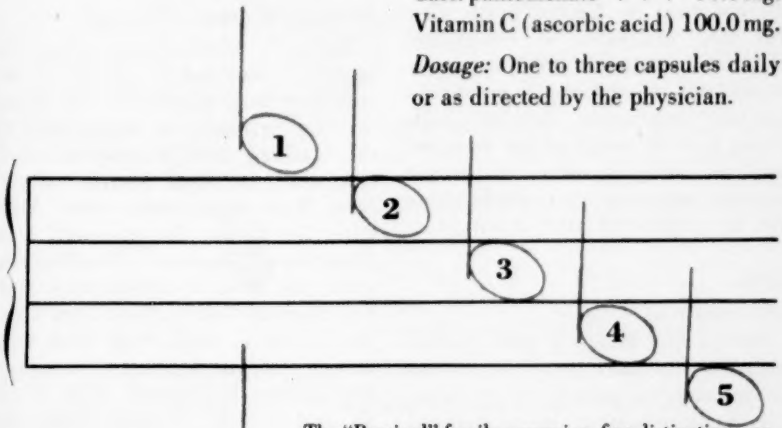
Arch. Int. Med. 85:1-10, 1950.

"Beminal" Forte with Vitamin C is recommended whenever oral administration of massive doses of B factors and vitamin C is desirable. Each capsule contains:

Thiamine HCl (B_1) . . .	25.0 mg.
Riboflavin (B_2)	12.5 mg.
Nicotinamide	100.0 mg.
Pyridoxine HCl (B_6) . .	1.0 mg.
Calc. pantothenate . . .	10.0 mg.
Vitamin C (ascorbic acid)	100.0 mg.

Dosage: One to three capsules daily or as directed by the physician.

forte!



The "Beminal" family comprises five distinctive combinations for the selective treatment of B deficiencies.

1. ***"Beminal"*** Forte with Vitamin C. Capsules No. 817
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4. ***"Beminal"*** Forte Injectable (Dried) No. 495
5. ***"Beminal"*** Tablets No. 815

"Beminal" ® ***'B'*** ***for therapy***

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PUBLIC HEALTH

Examinations for Medical Officers

On May 15-17, competitive examinations will be held for appointment of assistant and senior assistant surgeons in the regular corps of the U.S. Public Health Service. The positions are equivalent to Army ranks of first lieutenant and captain. Applicants must be United States citizens and graduates of recognized schools of medicine. At least seven years of educational training and professional experience beyond high school will be required for assistant surgeons, and ten years for senior assistant surgeons. No applications will be considered after April 17.

AWARDS

Aeronautical Honor

For the first time, the John Jeffries award of the Institute of Aeronautical Sciences has been given to an active medical worker in commercial aviation. Col. A. D. Tuttle, medical director of United Air Lines, has received the award for 1949. He was a pioneer in the application of military medical research to commercial aviation.

OPHTHALMOLOGY

Corneal Clinic

The only clinic in the world devoted solely to the diagnosis and treatment of corneal diseases may soon be expanded. Recently established at the Manhattan Eye, Ear and Throat Hospital by the Eye-Bank for Sight Restoration, Inc., New York City, the Corneal Clinic already has patients from all over the United States and from many foreign countries. Expansion has been made possible by the increasing supply of eyes, which is now sufficient for present demands. Dr. R. Townley Paton of New York University, New York City, is the director of the Corneal Clinic.

AWARDS

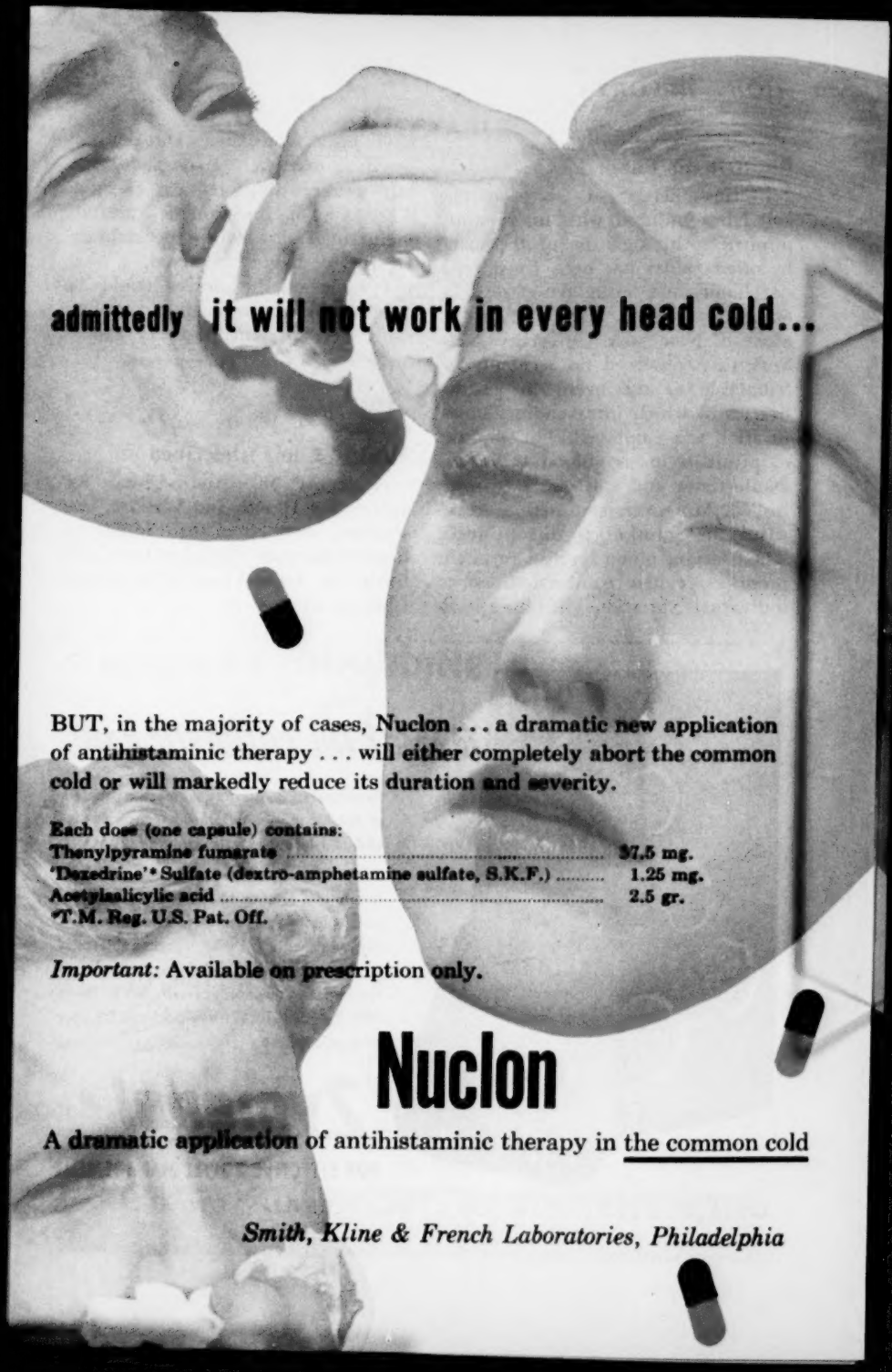
Medical Women Honored

Elizabeth Blackwell Citations for 1950 were awarded by the New York Infirmary to 5 women doctors. Honored for distinguished achievement in the teaching and practice of medicine were: Dr. Ruth Morris Bakwin, New York University, New York City; Dr. Leona Baumgartner, U.S. Children's Bureau, Washington, D.C.; Dr. Elise S. L'Esperance, Cornell Medical College, New York City; Dr. Elaine T. Ralli, New York University–Bellevue Medical Center; and Dr. Barbara B. Stimson, of St. Francis and Vassar Brothers Hospitals, Poughkeepsie, N.Y.

EDUCATION

Industrial Health Training

General Motors and the University of Michigan are initiating a plan to combine postgraduate training with experience in industry. The program will be similar to resident hospital training in other fields of medicine. Young physicians will be employed by General Motors for twelve months, 8 months in the medical departments of the corporation and 4 at the university. Applications should be sent to the General Motors Medical Director, General Motors Building, Detroit.



BUT, in the majority of cases, **Nuclon** . . . a dramatic new application of antihistaminic therapy . . . will either completely abort the common cold or will markedly reduce its duration and severity.

Each dose (one capsule) contains:	
Thenylpyramine fumarate	37.5 mg.
'Dexedrine'* Sulfate (dextro-amphetamine sulfate, S.K.F.)	1.25 mg.
Acetylsalicylic acid	2.5 gr.

*T.M. Reg. U.S. Pat. Off.

Important: Available on prescription only.

Nuclon

A dramatic application of antihistaminic therapy in the common cold

Smith, Kline & French Laboratories, Philadelphia

OBSTETRICS

Pituitrin in Labor

Uterine inertia can be overcome and labor induced with intravenous pituitrin. Although use of the drug by other routes has been considered unreliable and even dangerous in obstetric practice, Dr. Melvin L. Stone of New York University, New York City, observed no accidents attributable to the agent in 32 deliveries in which intravenous administration was employed. The amount of pituitrin in the blood is known at all times and can easily be controlled. Moreover, contractions cease when the solution is discontinued. The constant blood level of pituitrin produces regular contractions, since individual variations in absorption have been eliminated. Dilutions of the drug used were 1:500 and 1:750, but weaker dilutions are effective. The rate of injection is carefully maintained at 30 drops per minute. Of the 33 babies delivered, 5 died, but none of the deaths could be ascribed to pituitrin since complications were present in every case.

Am. J. Obst. & Gynec. 59:49-57, 1950.

EDUCATION

Health Films Described

A report on "Audio-Visual Resources for Health and Welfare," describing more than 640 important health education films, has been published by Audio-Visual Publications, Chicago.

Washington Letter

Survey Needed to Bring Health Data Up to Date

Anyone who has followed congressional arguments on national health insurance for the last five years will come to one undebatable conclusion: Both sides have had to depend more on emotion than fact.

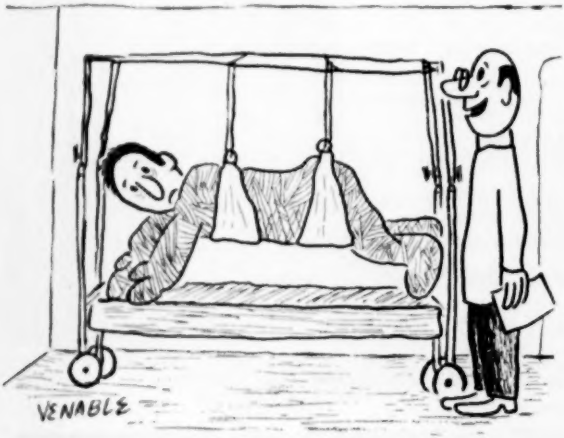
Congress is unlikely to do anything about health insurance this session, but is almost certain to do something about collecting more facts on the nation's health, for use when the issue of health insurance comes up again.

The movement for a survey of the nation's health started last year. Then the proposal was for the immediate inauguration of a comprehensive, nation-wide survey. Late in the session, sponsors of this bill were talked out of this proposal. They were made to see that such a complicated, important survey should be preceded by a study of methods of procedure.

As a consequence, Sen. Claude Pepper, Florida Democrat, introduced a substitute bill, which provides $200,000 for a scientific study of "the [best] methods of determining the amount, distribution and effects of illness in the United States." Opposition to this bill to prepare for a survey has melted away. The odds are overwhelming that this project will be under way by next fall.

The last national health survey was made in 1936. The Senate Labor and Welfare Committee, in considering the bill, asked the U.S. Public Health Service for information on the problem. Public Health Service has recommended passage of the preliminary bill and added, "almost any estimate that one hears or sees today of the prevalence of chronic disease can be traced back to the [1936] national health survey."

Subsequently, the committee gave unanimous approval to



"Well, I'm glad to see that you are up and around."

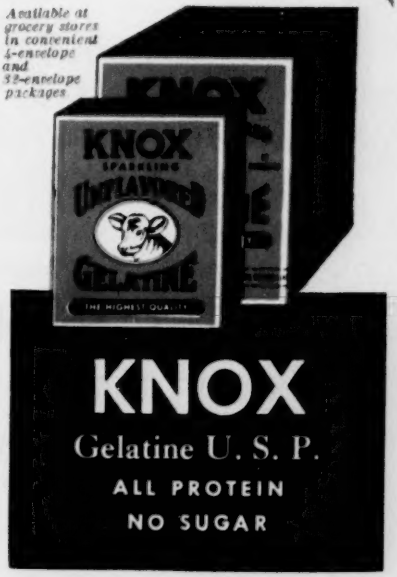
A Versatile Aid In Low Sodium Diets

PATIENTS requiring diets low in sodium appreciate the wide, appetizing variety of low-sodium main dishes, salads and desserts made with Knox Unflavored Gelatine.

Knox Gelatine itself contains less than 30 mg. of sodium per 100 gm. of protein. Unlike ready-flavored gelatin dessert powders, with their high sodium and sugar content, Knox is *all* gelatine, *all* protein, with no sugar content and extremely low in sodium.

In the Knox package your patients will find suitable recipes with which to begin their regime of gel-cookery. Hundreds of additional recipes are available, using fresh vegetables, fruits and juices; lean meats, poultry and fresh-water seafood; and other ingredients of minimum sodium content.

Available at grocery stores in convenient 4-envelope and 32-envelope packages



FREE SPECIAL DIETARY GUIDE BOOKS

A series of booklets devoted to menus and recipes for prescribed diets are available upon request. Address Knox Gelatine, Dept. R-26, Johnstown, N. Y.

appropriation of the $200,000 to prepare the way for a survey. Under the bill, the surgeon general would be in charge of the study. He is directed to consult with nongovernmental as well as governmental experts.

He and his staff would first study various methods of making such a survey, then recommend the kind of survey that promises the best results. He would be required to report back to Congress eighteen months after passage of the bill. This suggests that a method of conducting the survey will have been decided upon before 1952.

Eventually, the object is to conduct health surveys periodically. All essential basic information would be collected in the first sampling. Most subsequent surveys then could be less extensive and less expensive.

The Senate committee report, quoting Public Health Service, says that surveys made by health and life insurance companies are of only limited value because such "statistics are based upon the experience of the policyholders, and these groups are by no means representative of the general population." Furthermore, most health and life insurance organizations exclude the chronically ill from coverage, thereby ruling out the exact information that would be most important from a national standpoint.

The committee also notes that a health insurance survey could not be

A LAXATIVE FOR *judicious* THERAPY

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Phospho-Soda (Fleet) is a solution containing in each 100 cc. sodium biphosphate 48 Gm. and sodium phosphate 18 Gm. Both Phospho-Soda and Fleet are registered trade marks of C. B. Fleet Company, Inc.

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How easy it is to overlook this simple fact, that Pet Milk *is* milk . . . good milk to drink . . . and its usefulness extends far beyond bottle-feeding days.

Physicians think of Pet Milk *first* in terms of infant feeding. Its broad background of clinical trial, together with each doctor's successful use of Pet Milk in both difficult and normal feeding cases, has built this lasting recognition.

Yet in ever growing numbers children who have thrived during infancy on Pet Evaporated Milk continue to drink this good whole milk after weaning. The same qualities recommend it . . . its unfailing sterility, its soft, readily digested curd, its economy as compared to other forms of milk. Pet Milk, diluted half and half with water, is complete in all the food values of rich whole milk.

Of special importance, too, is the fortification of Pet Milk with pure crystalline vitamin D in the approved amount, which provides *automatically* during growing years the needed amount of this sunshine vitamin for *optimal growth and dentition* long after cod-liver oil days are past.

So when mothers ask the common question, "When do I change my baby to regular milk?," the wisest answer is "Pet Milk *is* milk. There is no better — no more wholesome kind of milk for your child through all his growing years."

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included effectively in the national census which begins next month. Most people are reluctant to give information on mental illnesses and many are reticent about cancer, tuberculosis, and seriously crippling defects. Furthermore, census takers are not, and could not be, properly trained to collect this kind of medical information.

Public Health Service has already done some preliminary work on the problem and has told the Senate committee the kind of scientific sample that will be necessary. In urban areas, one block in each ward or precinct might be selected; in rural areas, one township in each county. However, without assistance from the family physician, any system like this obviously would be of little value to the Public Health Service.

Even trained medical interrogators could not compensate for the reluctance, noted above, to mention certain diseases. Also, no one but a physician is able to state that a person is suffering from heart disease. An arrangement must be worked out, in cooperation with medical societies. One system proposed would give the family physician an opportunity to verify information supplied by the family.

Public Health Service believes that whatever system is adopted will have to be supplemented with free medical examinations, relatively few in number, which could in turn be weighted against the door-to-door returns.

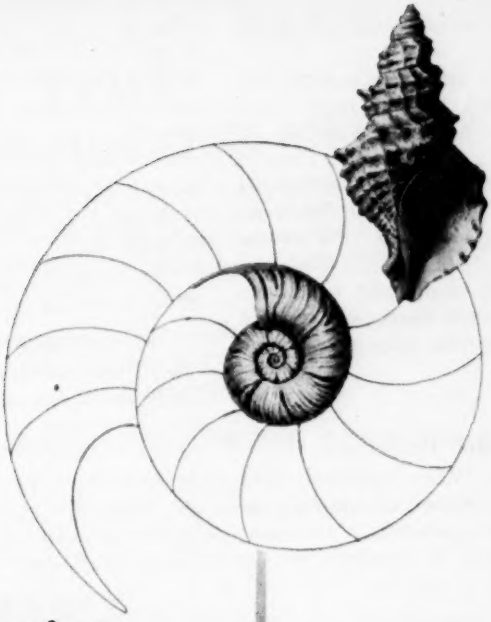
Science Foundation Bill

For no apparent reason, the National Science Foundation bill again bogged down in the first months of this session. The strictly legislative situation involves the House rules committee, and is a complicated story. However, the essential facts are: First, an effort could have been made the second week in January to bring the bill out on the House floor for a vote. Second, it probably would have been brought up had Speaker Sam Rayburn indicated that he would recognize Rep. Robert Crosser, chairman of the committee which turned the bill over to rules committee.

At present no one appears willing to stand out openly and oppose the bill.

But on the other hand, it is well blocked off through behind-the-scenes maneuvering. If the bill is not passed this session, the blame will rest on the administration forces. This legislation has passed the Senate, and the White House has given repeated

"Okay—I found a pencil—now what was that address again?"



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assurances of wanting the bill made into law.

Recently, a new explanation has been advanced for the delay. The Federation of American Scientists, in its *Newsletter,* suggests that there is a growing reluctance on the part of Congress to disturb the present research arrangements in view of the unsettled world situation. With the cold war well established, some congressional leaders hesitate to entrust research leadership to a new civilian organization.

Water Pollution

Under the Water Pollution Control Advisory Board, a national campaign has been started. A task committee of 25 or so members will coordinate information and problems of the major industrial groups concerned with water pollution. Subcommittees include about 150 of the country's top experts on the problems of municipal and industrial pollution. Recommendations will be made to the surgeon general, but industry will be expected to carry through a program.

Washington Notes

► Three government agencies currently are sponsoring two instructor training courses in radiologic monitoring technics and treatment of radiologic injuries. The two courses are being conducted at Brookhaven Laboratory, Upton, L.I., and the University of California at Los An-

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geles. A third will be started at Oak Ridge, Tenn., April 3. The groups will be expected to pass on the information to local science teachers. The courses are among the first and most significant steps in a national civilian defense program. The plan calls for local science teachers to instruct monitoring teams, after state and municipal programs get under way. Representatives enrolled in the current courses were appointed by state governors. Plans for the courses were drawn up by Atomic Energy Commission's Division of Biology and Medicine in cooperation with National Security Resources Board and General Services Administration, which has charge of federal buildings and equipment.

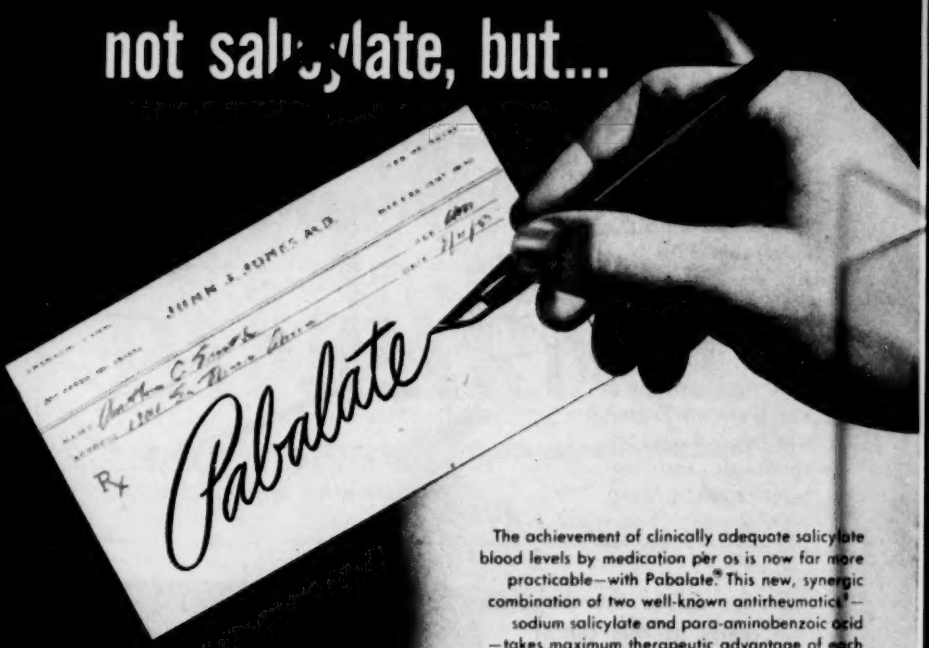
► Dr. Paul B. Pearson has received permanent appointment as director of the AEC's Biology and Medicine Division. He has been acting chief since last September. He supervises the biology research programs of the commission, which include work in biochemistry, genetics, and physiology.

► Three years ago the nation's radiation instruments industry was composed of ten small companies. Now more than sixty are in the field, and do a business in excess of $4,000,000. The work is coordinated by AEC's Radiation Instruments Branch, which recently moved from Oak Ridge to Washington, D.C.

► Navy is looking for several clinical psychologists. Salaries range from $5,400 to $7,600.

► Of the 1,570 regular Navy medical officers now on duty, more than 200 hold specialty certificates and 30 others have completed a portion of their examinations.

not salicylate, but...



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1. Schwab, R. S. and Leigh, D.: J.A.M.A. *139*:629, 1949.

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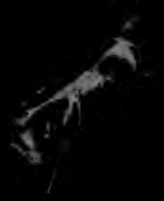

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It was in the days of sugar rationing. The doctor called me into his laboratory. He had asked Aunt Martha to bring a specimen on her next visit so he could test it for sugar. He handed the package to me. When I unwrapped it, imagine my surprise to find it was a quart jar full of sugar. When I asked Aunt Martha about it she was equally surprised.

"Why I thought the doctor was out of sugar," she said. "He has been helping me a lot and I thought that if he couldn't get any sugar I would divide mine with him."—E.P.B.

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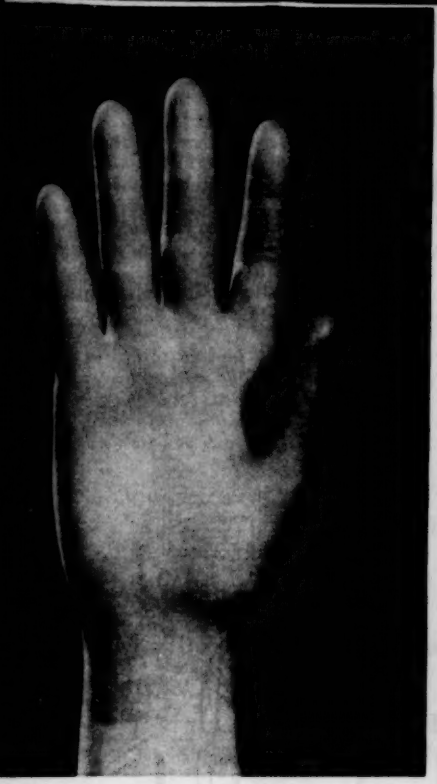
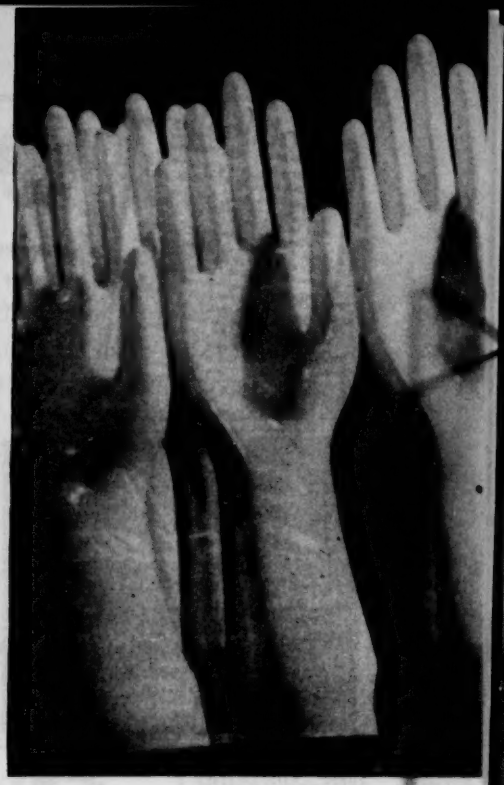
The patient had had a severe reaction from a blood transfusion. Her temperature had shot up to 105°. As she was recovering, she said to the nurse, "That was certainly hot blood you gave me. Could I get you to give some to my husband?"—R.C.H.

"When you've had five of them as I have, son, you'll learn not to get excited over one more."





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The nurse met me in the hospital corridor and said, "Doctor, your patient in 208 is very irritable and unreasonable."

"Well soothe him, nurse," I replied. "That's your job. Give him anything he wants."

"Doctor!" she replied indignantly, "I'll resign first."—M.C.

A patient had just returned for a checkup. The nurse, busy across the ward, called to him, "Undress yourself and hop into bed, Mr. Jones. I'll be with you in a minute."
—E.K.

"I'm not sick, it's just that I never feel well."

Homeopathy

A patient came in quite excited. "Doctor," he cried, "you must do something for me. My memory is completely shot. I can't remember a thing. I forget everything. I don't know what to do. What can you recommend for my condition?"

I led the patient to a chair and when he was comfortably seated said reassuringly, "Oh, come now, your case is not so difficult. Just forget about the whole thing."—M.C.

Then there was the allergic lady who telephoned she was having whelps and wanted to know if they could possibly be caused by eating strawberries.—H.W.D.

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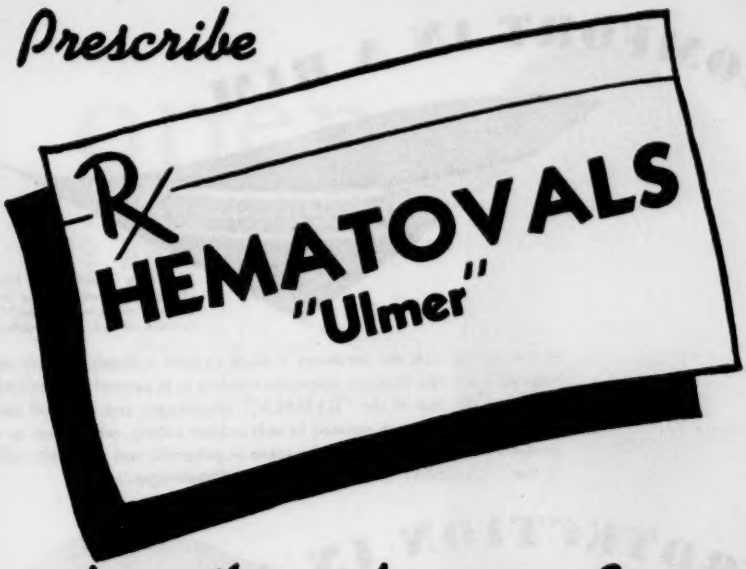

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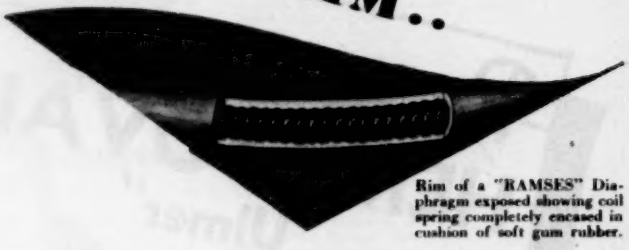
MINNEAPOLIS Manufacturing Chemists MINNESOTA

COMFORT IN A RIM..



Rim of a "RAMSES" Diaphragm exposed showing coil spring completely encased in cushion of soft gum rubber.

A coil spring with the necessary tension to hold it firmly against the vaginal walls can produce discomfort unless it is properly cushioned. Examine the rim of the "RAMSES"* Diaphragm and you will find that the coil spring is encased in soft rubber tubing, which acts as a protective cushion. This construction is patented and available only in the "RAMSES" Flexible Cushioned Diaphragm.

PROTECTION IN A DOME..

The "RAMSES" Flexible Cushioned Diaphragm is accepted by the Council on Physical Medicine and Rehabilitation of the American Medical Association.

A diaphragm dome must not only occlude the cervix—it must have a reasonably long life. The exclusive process used in manufacturing the dome of the "RAMSES" Diaphragm from pure gum rubber produces velvet smoothness, plus flexibility and long life.

A comparison will quickly reveal the advantages of supplying the patient with the patented "RAMSES" Flexible Cushioned Diaphragm.

"RAMSES" Diaphragms are available in sizes ranging from 50 to 95 millimeters in gradations of 5 millimeters.

gynecological division

Julius Schmid, Inc.

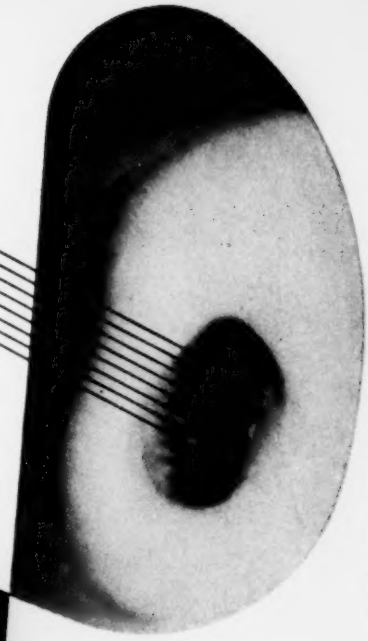
423 West 55th Street, New York 19, N. Y.

quality first since 1883

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.

open

the nasal passages



Swollen nasal mucous membranes . . . lacrimation . . . nasal discharge—the most acutely annoying manifestations of upper respiratory tract allergy or infection—respond quickly to the vasoconstrictive action of

HYDROCHLORIDE

BRAND OF PHENYLEPHRINE HYDROCHLORIDE

decongestive for allergic rhinitis, colds, sinusitis

neo-synephrine is

prompt and prolonged in its decongestive action
effective on repeated application
virtually nonirritating
nonstimulating to central nervous system

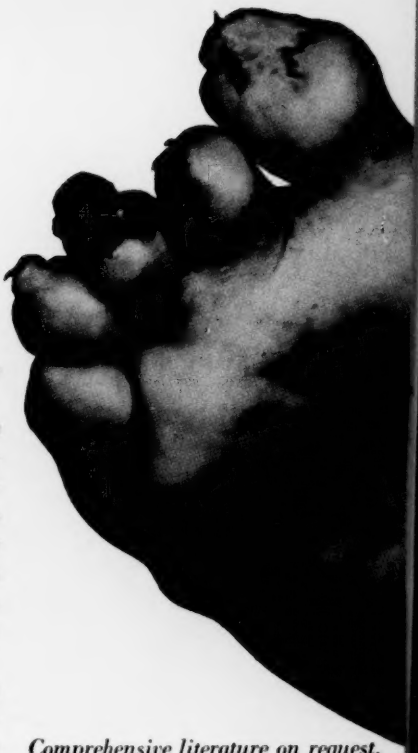
Supplied in ¼% solution plain and aromatic, 1 oz. bottles.
Also 1% solution (when greater concentration is required), 1 oz. bottles,
and ½% water soluble jelly, ⅜ oz.

Stearns INC.
WINDSOR, ONT.

NEO-SYNEPHRINE, TRADEMARK REG. U. S. & CANADA

Priscoline

A potent vasodilator effective by mouth...



Priscoline hydrochloride "has a definite place in the armamentarium of drugs . . . particularly in the field of *peripheral vascular disease*, or for conditions of visceral pain due to vascular spasm. Presumably the drug can be used to a great advantage in those cases in which sympathectomy would be advantageous. . . . It can also be used as a substitute for paravertebral sympathetic block."[1]

"Priscoline per se appeared to slow down progression of the disease and produce symptomatic benefits in 88 per cent of 25 patients with early proliferative and degenerative *arthritis* involving peripheral joints."[2]

In doses of 25 to 75 mg., administered either orally or parenterally, Priscoline "usually is tolerated with few side effects."[3]

Comprehensive literature on request.

1. Rogers, Max P.: J.A.M.A., May 21, 1949
2. Wyatt, Bernard L.: Ann. West. Med. & Surg. Aug. 1949
3. Grimson, Marzoni, Reardon & Hendrix: Ann. Surg., 127:5, May 1948

PRISCOLINE, Tablets of 25 mg.; 10 cc. Multiple-dose Vials, each cc. containing 25 mg.

Ciba PHARMACEUTICAL PRODUCTS, INC., SUMMIT, NEW JERSEY

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